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ADDRESSES.

ON THE APPROACHING REVISION OF THE UNITED STATES PHARMACOPŒIA.

Annual Address read before the Kings County Medical Association February 14th, 1890, by the Retiring President.

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The United States Pharmacopœia, in common with other laws and standards, originated in the necessity for it. It was not created by law, has never had the support of law, nor has it ever asked for it, but was formed upon the experience and example of other countries within and by the medical profession of this country. It originated in the New York County Medical Society, in January, 1817, upon a design and proposition of Dr. Lyman Spalding to prepare for and call together a general convention of delegates from incorporated medical bodies to meet in Washingington on January 1st, 1820. This convention met at the time appointed and constructed and published the first Pharmacopœia of the United States of America, then commonly called "The American Pharmacopœia." There had been other local pharmacopœias before this, and probably the first of these was a small book of 32 pages entirely in Latin, for a military hospital of the U. S. Army in 1781, "adapted especially to our present state of need and poverty which we owe to the ferocious cruelty of the enemy, and to a cruel war brought unexpectedly upon our fatherland."

A much larger and better work was however done in "The Pharmacopœia of the Massachusetts Medical Society," published in 1808; and in 1816 the Pharmacopœia of the New York Hospital was published. But these all seemed merely to express the need for a National Pharmacopœia and on the appearance of the U. S. Pharmacopœia of 1820, they all seem to have been abandoned.

Although the U. S. Pharmacopœia never has had any legal authority, it always has had a legal standing in being respected by the courts of law, and it has generally been admitted as standard authority in legal decisions within its scope.

Originating in 1820, it has been regularly revised six times, or once every ten years, since that time, and it has been the good fortune of this writer to have participated in four of the revisions and to have served in three. The original construction of the decennial convention was by delegates not exceeding three in number from all incorporated State Medical Societies, incorporated Medical Colleges, and incorporated Colleges of Physicians and Surgeons throughout the United States, and *this construction* held good up to the convention of 1850, when for the *first time* delegates from incorporated Colleges of Pharmacy were invited. This important step of progress amounted to a reformation in the work, and the introduction of this element into the conventions and their committees has so much extended and improved the work in material as well as in detail, that the advent of pharmacy must be regarded as the most important step taken in the sixty years of progress. And, so long as a just balance can be maintained between the elements of medicine and pharmacy, so that each may check the other within its proper perogative, the Pharmacopœia is sure to be progressive and successful. With the medical element in excess it will tend to go back to the original condition of a materia medica catalogue, but with the pharmacy element in excess it will do much worse, for then it will tend to become a trade adjunct. That is, the pharmacy element being more mercantile in its character than medicine, and farther removed from the issues of life and health, is less safe for the true interests of a pharmacopœia. A pharmacopœia, in the true interests of the art of relieving suffering, had much better be a mere catalogue of simple substances than a complex mass of polypharmacy, but should be neither the one nor the other, and need be in no danger of either the one or the other provided a just balance be maintained between the two natural subdivisions of the one inseparable interest.

In the convention of 1850 another step of progress was made by inviting the heads of the Medical Departments of the Army and Navy to participate in the conventions. In the conventions of 1860 and 1870 these departments appeared by one delegate from each; and in that of 1880 the U. S. Marine Hospital Service was added, thus giving more strength to the medical branch of the interest. If a just balance in ability as well as in the number of delegates can be maintained in these conventions, there can be no great danger to the interest involved, even though a preponderance of the medical branch would be safer. But there has been an unfortunate tendency in the medical profession to neglect or overlook that interest, while the interest of pharmacy is carefully stimulated and kept at its best. Medical delegates are appointed by comparatively few of the organizations appealed to, and the appointments which are made are often made without special selection, and even in a careless perfunctory way, whilst all the pharmaceutical organizations are fully represented by their best men, and their delegates very generally attend and are active in the proceedings. Under these circumstances it seems very desirable that the medical profession should awake to more care of this most important of all its general interests, if it would avoid the danger of losing the interest by having it perverted.

In discussing the proper method of revising a pharmacopœia, it may not be amiss to glance at the plans pursued by other nations. It happens that just now two of the most important pharmacopœias of the world are being revised—those of Germany and Great Britain.

The German Pharmacopœia is in process of revision, and nearly completed by a Commission which consists of 12 physicians, 2 Army surgeons, 6 chemists, 6 pharmacologists and 7 pharmacists or thereabouts, all appointed by the Government, and they are understood to have done the work mainly by subcommittees who report to the general sessions of the Commission; and it is understood that very little of the work,—old or new,—is accepted on other authority than that of actual trial under control of the Commission. As an illustration of what the Commission has provisionally done, the *Pharmaceutische Zeitung*, Vol. 34, No. 101, page 766, Berlin, December 18th, 1889, gives the following notice:

Articles dismissed from the present Pharmacopœia are 77 in number, including 9 Extracts, 11 Tinctures, and 4 Ointments. In this list are two articles, Aloes and Camphor, the dismissal of which will not be understood here.

Of the articles proposed for admission to the new Pharmacopœia eighty-eight have been rejected. Among these rejections we find several that have some popularity here. For example, it will surprise many to find that the following articles have been weighed in the German balance and found wanting: Amylen Hydrate, Apiol, Boroglycerin, Creolin, Eucalyptol, Fluid Extracts of Cascara Sagrada, Castanea, Damiana, Gelsemium, Cotton Root, Grindelia, Hamamelis, Corn Silk, Wild Cherry, Sarsaparilla and Black Haw; also Hypnon, Lanolin, Methacetin, Nitroglycerin, Pyridin, Saccharin, Somnol and Sulphate of Spartein.

The British Pharmacopœia is controlled by a Committee of "The General Council of Medical Education and Registration of the United Kingdom." At the last revision of 1885 the Pharmacopœia Committee consisted of eight members, all in the interest of the medical profession, and the Committee employed Professors Redwood, Bentley and Attfield as Editors of the Pharmacopœia. In December last this Committee reported to the Council that 20,000 copies of the Pharmacopœia of 1885 had been printed, of which only 559 remained, and recommended the printing of 3,000 additional copies. The Committee also recommended that an addendum to the Pharmacopœia of 1885 be prepared by Dr. Attfield, under the direction of the Chairman of the Committee and another member, with the understanding that no new remedies are to be introduced into it except such as have met with general approval. This recommendation was agreed to by the Council, and it is understood that the work is now in progress. This is the way in which the B. P. of 1867 was revised in 1874. There was a new B. P. in 1885, now to have an addendum in 1890.

Through this ultra-conservative policy the British medical profession, by authority of the Government, has jealously guarded that Pharmacopœia from any direct influence of British pharmacy, while indirectly availing itself of the highest pharmaceutical ability by employing some of the best men to do the detail work and calling them editors. That the pharmaceutical interest of Great Britain is justly entitled to a recognized or official share in their Pharmacopœia for the best interests of the Pharmacopœia itself, can hardly be doubted; and yet it cannot be denied that the Pharmacopœia as it stands is of excellent quality, and is, as a standard, more closely followed and more generally used in British medical practice than any national Pharmacopœia.

The Convention for the revision of the U. S. Pharmacopœia of 1880 adopted the following resolutions for calling the Convention of 1890:

Resolved, That the President of this Convention shall, on or about the first day of May, 1889, issue a notice requesting the several incorporated Medical Societies, the incorporated Medical Colleges, the incorporated Colleges of Pharmacy and incorporated Pharmaceutical Societies throughout the United States, and the American Medical Association and the American Pharmaceutical Association, to elect a number of delegates, not exceeding three, and the Surgeon-General of the Army, the Surgeon-General of the Navy, and the Surgeon-General of the Marine Hospital Service, to appoint, each, not exceeding three medical officers, to attend a General Convention for the Revision of the Pharmacopœia of the United States, to be held in Washington, D. C., on the first Wednesday of May, 1890.

Resolved, That the several bodies, as well as the Medical Departments of the Army, Navy and Marine Hospital Service, thus addressed, shall also be requested by the

President to submit the Pharmacopœia to a careful revision, and to transmit the result of their labors, through their delegates, to the Committee of Revision, at least three months before the meeting of the Convention.

Resolved, That the several medical and pharmaceutical bodies shall be further requested to transmit to the President of this Convention the names and residences of their respective delegates, as soon as they shall have been appointed, a list of whom shall be published, under his authority, for the information of the medical public, in the newspapers and medical journals in the month of March, 1889.

Resolved, That in the event of the death, resignation or inability of the President of the Convention to act, these duties shall devolve, successively, in the following order of precedence: Upon the Vice-Presidents, the Secretary, the Assistant Secretary, and the Chairman of the Committee of Revision and Publication of the Pharmacopœia.

This call was published by the President of 1880 in almost, if not quite, all the medical and pharmaceutical journals of the United States, and seems to have awakened much more attention in the pharmaceutical than in the medical bodies to whom it is addressed.

It should be noticed that here, for the first time, the American Medical Association and the American Pharmaceutical Association are requested to elect delegates; and also, for the first time, the three medical departments of the general government are officially requested to appoint delegates. Again, it should be noticed that the several bodies addressed, including the Army, Navy and Marine-Hospital Service, are requested to submit the Pharmacopœia to a careful revision, and to transmit the result of their labors to the Convention of 1890, through their delegates, and as thus provided for the Convention will meet in Washington on May 7.

These Conventions have in the past decided upon the general principles which were to control the revision, and then have appointed Committees of Revision to carry out these principles and do the resulting work in detail; and in view of the very great importance of these Conventions and their Committees of final revision, a more general knowledge of what is to be done by them may be useful.

Each Convention has been organized under the officers and by the rules of the one preceding it, a Committee on Credentials appointed, and when the authorized delegates have been admitted a Nominating Committee is selected by the several delegations, one member from each delegation, including those of the Army, Navy and Marine Hospital Service. This Committee nominates permanent officers of the Convention for the decennial period, and when they are elected the minutes of the last Convention are presented. Next, the report of the Secretary of the Committee of Revision and Publication of the last Pharmacopœia is presented. Next, the preliminary revisions sent in by the different bodies, and any other written communications and contributions, are called for to be referred to the new Committee of Revision and Publication.

The Nominating Committee is then instructed to nominate a new Committee of Revision and Publication, the size of such Committee being decided by the Convention. The last Committee was twenty-five in number.

The last Nominating Committee was also instructed to report a plan for revising and publishing the Pharmacopœia and to make provision for the revision of the Pharmacopœia in the future.

Then the powers and duties of the Committee of Revision were defined and the Committee duly authorized, and this done, the general principles to be followed by the Committee in the new revision were discussed, and either adopted or rejected. This is really the most important part of the work of the Convention, as will be seen by a brief review of the headings as they appear in the Proceedings of the Convention of 1880. First, after due discussion, it was decided that all officinal titles should be given in both Latin and English, but that the text be in English. Then it was decided that the entire Pharmacopœia present an alphabetical order of titles, classes and titles under classes; that synonyms in common use be given; and that at the end of each article the names of all the preparations into which it entered should be given. Upon these points the experience of ten years has been so favorable that it is hardly likely they will be disturbed or be subjected to much adverse criticism.

The directions for the description of crude drugs seem also to have been sufficient and satisfactory in the main, but in a few instances they do not seem to have been fully carried out by the Committee. This point may lead to discussion in the Committee, but probably not in the Convention.

The directions for the description of chemicals have of late excited much important discussion. It is directed that Opium and Cinchona shall have detailed processes of assay for the alkaloids, and that the minimum percentage of total alkaloids required be given under Cinchona, and the minimum and maximum of morphine in Opium be prescribed. No fault has been found with these directions, but it has often been claimed with much force, that now processes of assay should be directed for all the important crude drugs, even including those which have no definite, separable, active principles. This claim seems to be an outgrowth of experience obtained by the leading step taken in regard to Cinchona and Opium, but this is certainly not the case, for no one who has had much experience with Cinchona and Opium assays can have escaped the difficulties and uncertainties of these. The assaying of crude drugs for their active principles seems an easy matter to those who only read and write upon the subject. But those who attempt to practice the processes soon get a very different impression, for there is really nothing more precarious and uncertain than these assays in general hands with but a small experience in such work. Assay processes might perhaps be wisely directed for a few additional drugs such as Aconite, Belladonna, Conium, Hyoscyamus, Ipecacuanha, Jalap, Nux Vomica, Scammony and Veratrum Viride.

Pharmacopœial processes of assay will be successful or unsuccessful in proportion to their character. If they aim at a high degree of accuracy and precision they must, necessarily, be elaborate and complex to a degree that places them beyond the reach of general pharmaceutical ability. But if they aim at only the very moderate degree of accuracy, such as satisfies the careful manufacturer in the selection of materials, rough processes of approximate assay may be found that are sufficiently easy of application to be successfully applied to pharmaceutical ability and usage through the authority of the Pharmacopœia. While most of these rough and ready processes are secreted in the hands of manufacturers, yet enough of them are published to give the Pharmacopœia opportunities of selection in these, and in the trials for selection similar processes for all would be naturally reached. Including Cinchona and Opium eleven drugs have been named which might have processes of assay given in the Pharmacopœia, and if high degrees of accuracy be not aimed at, a moderate amount of work in the selection of proper menstrua would enable the Pharmacopœia to apply the shaking out process to all these articles with results sufficiently close for the present scope of the Pharmacopœia, and sufficient to prevent the Pharmacopœia from depending upon either experts, manufacturers, or commentaries. For example, a simple and easy process for Opium assay, which in hands of ordinarily educated pharmaceutical skill and ability would have a maximum range of probable error of not more than a half of 1 per cent. above or below the truth, might be better adapted to the pharmacopœial usage of the present time, than a critically accurate chemical process with a range of error of a tenth of a per cent.; first, because no two samples of the same lot of Opium, whether moist or in powder, would come within this small range of error; and next, because such a process would require a degree of expert knowledge and skill rarely found in pharmaceutical practice.

Another important consideration not to be overlooked is, that with the exception of Cinchona, Jalap, Opium and Scammony, the drugs named can always be bought by pharmacopœial description and tests, of such quality as to yield preparations of practically uniform therapeutic value. The claim frequently heard that all pharmaceutical preparations from crude drugs should be made or adjusted by assay is so plausible and attractive, as to form a most fertile basis for specious advertising by manufacturers of these preparations, and if the Pharmacopœia could be committed to this or any similar doctrine it would put much money into the pockets of large manufacturers, and just to that extent would divert practical pharmacy from its legitimate channels and proper responsibilities. In the first place, the claim is untrue and unfair, because a very large proportion of important drugs have no separable active principle that can be determined by assay, and therefore their quality cannot be determined by assay, nor can their preparations be adjusted by assay. Out of some ninety officinal drugs in all, there are about thirty-four of the more important ones, which may be fairly represented by Ergot, Rhubarb, Senna, Wild Cherry, Dandelion, Columbo, Gentian, Butternut, Pareira, Cotton Root, Cimicifuga, Buckthorn, Leptandra, Sarsaparilla, Spigelia and Stillingia, which could not be adjusted by any ordinary processes of assay, and which do not need it if they could, because care in buying them by pharmacopœial description and tests, rather than by price, will always easily obtain a uniform good quality, at moderate cost. Again, while a fair degree of accuracy and uniformity in the strength of galenical medicines is most desirable, any strain after a degree of accuracy that is not necessary, nor available if attained, is hurtful by whatever is sacrificed to attain it. In the therapeutic uses of medicines, doses are anything but definite or accurate in quantity. Of the same medicines different individuals require different doses to yield the same effect. And even the same individual requires different quantities at different times and under differing conditions, and the real dose is always that variable quantity that yields the peculiar effect of the agent. How then can the physician avail himself of any degree of critical accuracy beyond that practical uniformity of strength and quality upon which his experience is based, or of any degree of critical accuracy which is beyond the limit of accuracy determined for him by variable individual susceptibility? All that is true and sound on this point is that a practical degree of uniformity is all that can be useful, and that this can be attained by the Pharmacopœia without any such system of elaborate assaying as would tend to throw this important interest of the Pharmacopœia into the hands of experts, or would-be experts. The line of wise action seems not difficult to draw here. If the descriptions and tests of the Pharmacopœia can be improved without carrying them beyond the reach of educated pharmaceutical or medical skill in application, this should be done, applying assay processes only to such drugs as have easily separable active principles. Then, a very few preparations, such as those of Opium, Nux Vomica, and perhaps Cinchona, might wisely have their strength adjusted by these assays. There has never been a time within the forty years' experience of the writer, when officinal drugs were more accessible to those who would take the trouble to look for them, and be willing to pay for them; and to those who will not take the proper pains, nor pay adequate prices, the Pharmacopœia would continue to appeal in vain, even by the most elaborate system of assays and adjustments, if such a system was practicable.

The Convention of 1880 next specified the chemical formulæ and chemical notation that were to be used throughout, and also directed special chemical processes to be given in detail for officinal chemicals, with the result that these have been, in the main, fairly successful. Some of the processes have not been given in sufficient detail, but such being now known, they will doubtless be amended.

A very important direction, given by the Convention of 1880, after much careful discussion and deliberation, was that "All measures of capacity shall be abandoned and quantities shall be expressed in *parts by weight;* except that in the case of Fluid Extracts, the Committee of Revision and Publication shall have authority to adopt such process or processes as shall seem to it best."

This change has caused some popular dissatisfaction and adverse criticism, and it is not unlikely that in the approaching Convention there will be an effort made to get back to the old weights and measures on the one hand, or to metric weights and measures on the other. The present plan having now been in use for about eight years, there should have accumulated experience enough to enable it to be dispassionately discussed, and if it be so discussed it will doubtless be continued in force. The chief objection to the plan seems to be the weighing of liquids which had hitherto been measured. The writer has looked in vain for any argument against the weighing of liquids. The reason why the practice was changed was that the measuring of liquids was inaccurate beyond what is easily controllable, and beyond what is now admissible in the progress of medicine and pharmacy. No reasonable person doubts this, and no attempt to fairly controvert it has been noticed in any other way than by the mere clamor that weighing liquids is too troublesome, and therefore the less troublesome measuring must be reinstated. No one has ventured to say that the measures accessible in general practice are as fairly accurate or uniform as the weights are; nor that, if the measures were accurate, measuring by them would be as accurate, or anywhere near as accurate as weighing. Every one knows that the adjusting of the level of the liquids to the mark in measuring is never twice the same even in the same hands, and that with double the amount of care and pains in measuring, the weighing is the more accurate. Every one knows, too, that, as measuring must of necessity be continued in use for dispensing and dosing, and is there applied only to dilute liquids, when small errors may be tolerated,—this circumstance limits the weighing of liquids to the actual practice of the Pharmacopœia; and the number of times when, in compounding from the text of the Pharmacopœia, liquids require to be weighed, is small though very important. Those who object to the weighing of liquids simply because it is troublesome and inconvenient, while granting the superior precision of the practice, cannot certainly be of the same class which demands to have preparations adjusted by assay for the sake of precision.

Objections have also been raised against the use of parts by weight, and it is not unlikely that efforts will be made in the Convention to return to arbitrary weights. This, again, would be to lose all the ground gained by eight years' experience in this step of modern progress. The chief reasons for adopting this simple and precise method of expressing relative quantities were, first, that it avoided the two tables of weights and measures which had led to confusion for so many years, and allowed the operator to use any system which he might have at hand, including the metric system; and second, that it did not commit the Pharmacopœia to any definite quantity for its preparations, but allowed the operator to make the quantities that were best adapted to his wants at the time. That is, he might construe the parts by weight to be any system of pounds or ounces he might have, or, he could make each part a half or a quarter ounce, or ten grains or one grain, or a gram, or kilogram, and the result would be always the same. Besides, it was a step towards the metric system, the adoption of which, though distant, must now be considered very sure. To return to the old apothecaries' weights and measures, or to adopt the avoirdupois, would be to lose all that has been gained, and throw the labor on some future Convention of starting anew from the same old point of ten years ago. The reasons for making this change to parts by weight have never been successfully controverted. No one has ever shown that the change did not accomplish the objects intended by it, nor has any one shown that the change involved disadvantages which, either in their nature or degree, overbalanced the advantages. The summing up of all that has been said against the method seems to have been that it was not generally understood sufficiently well to be generally adopted, while it replaced a method that was well understood and successfully practiced, and therefore it was inconvenient and objectionable. Thus stated, these objections seem simply puerile, especially if looked at in connection with the examination papers of the various schools of the country year after year. That any of the students who passed any of these examinations for the last ten years should not know enough of common elementary arithmetic, to easily substitute parts by weight for any arbitrary system of weights and measures with the tables before them, is incomprehensible. Then it must not be forgotten that the former revision adopted the apothecaries' or 480 grain ounce, and the 456 grain fluidounce, while it was shown that ignorance, stimulated by pecuniary profit, led to the not uncommon use of the 437½ grain ounce and fluidounce, and to this day some of the largest manufacturers in the county graduate their measures by the 437½ grains of distilled water to the fluidounce. Should there be any thought in the Convention of going back to an arbitrary system of weights and measures the avoirdupois table should be adopted, as in the British Pharmacopœia, where the small ounce and fluidounce are used exclusively. Then, in such a change as this it should not be overlooked that most troublesome calculations and equally troublesome fractions would be required to keep the officinal preparations near their present strength.

In concluding these remarks, it may not be useless to offer the force of one single example. It is highly probable that this writer uses the Pharmacopœia in actual practice as much as any other individual in this country, and he has found the weighing of liquids, and the use of parts by weight, not only more accurate, but also much more convenient than the older usage, and he is therefore a strong advocate of the continuance of the plan in the approaching revision.

The last Convention gave wise directions that such preparations as tinctures, wines, etc., in which slight variations are not important in case of a change for uniformity's sake, might be reduced to uniform percentage strength, but that the more active preparations of this class should remain, as nearly as possible, unchanged. The work of the Committee of Revision under these directions has been satisfactory so far as is known.

The direction that temperatures should be expressed in both centigrade and Fahrenheit degrees was very wise, and the practice has been very useful.

The direction that all doses shall be omitted from the Pharmacopœia was but a continuation of the usage in all previous revisions. In every revision there have some efforts been made to have maximum and minimum doses given, as in some other pharmacopœias. This has been advocated, not only as a guide to physicians in the use of both old and new medicines, but also as an important guide to pharmacists in checking mistakes in prescriptions, and in exercising caution against excessive doses. It has also been advocated as tending to increase the usefulness and authority of the Pharmacopœia in courts of law. But the objections which have always prevailed in overbalancing these admitted advantages were, first, that, in any accurate sense, there are no maximum and minimum doses that are not so wide apart as to lose all practical value, and be in danger of misleading. It is generally known that each individual has a different susceptibility to potent agents, and therefore requires a different dose. Next, that different diseases and disorders require different doses; and different conditions of the same disease also require different doses. And, finally, that different authorities differ so much among themselves that from them it would be impossible to adopt a standard range of doses that would be short enough to be of much practical value, while the Pharmacopœia, aiming to be a standard, could not be a standard in this. In short, the only doses that could be wisely stated would be those proper to begin with, imposing on physicians their duty of watching the effects of their agents and increasing their doses until they reach the desired effects or the physiological effects. Undoubtedly physicians are often so trammelled by stated doses as to miss the uses and effects of their agents, and if this be so, and if the above considerations be admitted, then all that the Pharmacopœia could wisely do would be to give proper, safe doses to begin with in the application of its standard agents. This much would not commit the Pharmacopœia to anything beyond its legitimate scope.

The Convention of 1880 directed a large number of useful tables to be appended to the Pharmacopœia specifying those most desirable, and authorizing the Committee of Revision to add any other tables that might be deemed expedient. The Committee did add a number of very important tables selected with care from various authorities. But three of those directed by the Convention were omitted. One of them, namely, a weight and volume table to facilitate the use of parts by weight and by the metric system, is very important, and would have been very useful. The want of such a table has been supplied by the commentaries on the Pharmacopœia, but just to the extent that this is necessary or useful do the commentaries take the place of the Pharmacopœia. Such a table involves a large amount of careful labor in both construction, and detail work, but it seems to be practicable inasmuch as the commentaries have supplied most of the elements of such a table in detail.

Another table ordered by the Convention and not supplied by the Committee was one of specific gravities of officinal liquids for each degree of temperature between 10° and 25° C. (50° and 77° F.) This would be a very useful table indeed, and one that, so far as this writer knows, is not to be found elsewhere, but it is one that would require much careful labor to make. Specific gravity is perhaps the most important of all the tests of quality of liquids, as it is the most generally applicable, and the main difficulty in the way of its application has always been the adjusting of the liquids to a single given temperature. Therefore, if a table was carefully constructed giving the equivalent figures for each degree, or each five degrees of ordinary room temperature, specific gravities could be so easily, so quickly and so accurately taken as to very greatly increase the application of this test. Such a table might be constructed in either of three ways. The standard volume of water for comparison might remain constant at 4° C.=39.2° F., or might remain constant at 15.6° C.=60° F., or it might vary with the room temperature at the time of weighing. That is, the volume of water for comparison might always be at the same temperature as the liquid compared. This latter is the true essential idea or principle of specific gravity, but its general use would involve the necessity of either a special bottle with a graduated tubular stopper graduated for each degree, or five degrees of water expansion,—or a troublesome arithmetical calculation,—both very objectionable when the aim is easy, rapid and accurate practice. Apparent specific gravity by either one or both of the fixed standards would be preferable. Throughout continental Europe the standard volume most used is water at 4° C., and this is becoming common in Great Britain and in this country also, but for a true specific gravity by this standard, the liquid compared must be reduced in temperature to the standard 4° C. This is always troublesome, often difficult, and sometimes impracticable, and therefore apparent specific gravities by this standard are common. That is, the standard volume at 4° C. is used, and the temperature at which the same volume of compared liquid is weighed, is given. As a general rule, throughout Great Britain and this country the standard volume used is water at 60° F=15.6° C., but the last Committee of Revision very unwisely, as the writer thinks, adopted a new standard of temperature of 59° F.=15° C., so that now the officinal specific gravities cannot be referred for comparison to any known tables in previous use with perhaps a single exception. If a table had been constructed as directed by the Convention this would have been the less objectionable, because then the new figures could have been easily compared with those of previous usage, and the equivalents be known. The most convenient usage for a pharmacopœial table at the present time would doubtless be to adopt 15.6° C.=60° F. as the standard volume and take this as the basis of a table of apparent specific gravities. That is, let the standard temperatures remain constant, and compare all the other temperatures with this. This method would be almost necessary in this country as almost all the specific gravity bottles in pharmaceutical use here are adjusted with more or less accuracy to 60° F. Then all that would be needed would be to fill and weigh the bottles at any room temperature at which the liquid might be. Then ascertain this temperature and by it refer to the table where, coupled with the apparent specific gravity at this temperature, would be found the true specific gravity at the standard temperature. In constructing such a table the actual specific gravities should not be taken closer together than for each 5° C., because the interval could be more accurately filled in by calculation than by observation. If such a table be not supplied in the next revision there should at least be given, in all cases, an apparent or true specific gravity at 25° C.=77° F., as is now done in the instances of Ether and Alcohol.

A third table ordered by the Convention and not supplied by the Committee, was one comparing the strength of powerful galenical preparations of foreign pharmacopœias used in this country with that of the corresponding preparations of our own. Such a table would be useful, and occasionally important. But such comparisons are of late so infrequently needed and so easily reached, when needed, by a little calculation, that the table has probably not been missed.

Knowing, as this writer does, the enormous labor put upon the last Committee of Revision by the Convention, and the great and numerous difficulties under which this work had to be done, it is not to be wondered at that some of the less important matters were left out. The next Committee will, it is hoped, be under much more favorable conditions. Thanks to the wisdom by which a high price was put upon the Pharmacopœia, there is now money enough in hand to begin the new revision and carry it forward for some time without delay. The last Committee had no money, and although the Convention authorized the employment of experts for the detail work, it did not provide any money to pay such experts, so that it was only when the work was so nearly done that the copyright could be sold that money became available, and then experts were not needed. All the work had to be allotted to the members of the Committee, and it was done by them, busy men as they were and are, without any remuneration of any kind. The Chairman of the Committee, however, had far the most laborious position, and a position that no future Convention should ever ask a Chairman to fill without liberal compensation for his ability, time and work. These Conventions must have Chairmen of exceptional ability and indefatigable industry, who can give a large portion of their time to the work, and such a Chairman who has served once has, to the Convention, double the value of any new man whose peculiar and rare qualifications for the work are unknown and untried.

There has been a good deal said in the journals against the high price of the present Pharmacopœia and in favor of a book of low cost, and it seems to have escaped the attention of the writers, that this was the only way in which money could have been raised then to defray the absolute outlay necessary for a proper revision of a national Pharmacopœia, even when all the individual labor of the revision was volunteered without remuneration by men who could ill afford it; and the profit upon the sale of the Pharmacopœia must be, in the future, the only means of paying for the labor put upon it. Besides, it must be borne well in mind that the amount and quality of the labor put upon it will be sure to govern the demand for it, and that the time has gone by when the kind and quality of labor that will make a salable book can be had without being paid for. There are several private interests which would be willing to take the work and pay all expenses upon it, and then give the book away, if they might have its authority and prestige to use for business advertising purposes, especially if it could be made to lean just a little in the direction of any one of the single special interests; but the number of those who would like to see the Pharmacopœia paid for either wholly or in part, in any such way, must be very few. The price realized for the Pharmacopœia over and above its actual money cost, is in reality the tax which is paid by those who use it, to pay the expenses of the next succeeding revision, and those who demand that it should be sold at or near cost, simply ask that the Convention and its Committee pay their own expenses, besides contributing the time and work. Of course a line must be drawn somewhere, and the experience of the last revision will be very useful in determining the price of the next; but it must always be borne in mind that each revision is more expensive than the last, and that in no revision yet has the expensive part of the work been paid for; and, further, that in all succeeding revisions it must be paid for, if better work is to be had. The only way in which a really good Pharmacopœia, fully up to its time in the quality and quantity of the work put upon it, can be supplied at a low price, is for the Convention to pay the expenses by a tax upon the bodies whose delegates form the Convention. In other nations the governments pay all the expenses, including the expert skill and labor; yet in some of them—Great Britain and France, for example—the book is sold at a high cost for those nations. It is quite probable that now that a small surplus will be handed over toward the beginning of the next revision, and now that the copyright is worth more than ever before, the approaching revision may be kept as good a book and yet be sold at a lower price, especially *if the Committee should* resolve not to sell the *copyright, but instead,* to publish the book themselves *in case they cannot* get a better price for it than heretofore.

By far the most important work of the Convention is the selection of its Committee of Revision and Publication. The Convention first decides of how many this Committee shall consist, and then how it shall be nominated. The last Convention directed that it should consist of 25 members, and be nominated by the Nominating Committee; that is, the Committee raised to nominate permanent officers for the Convention. This Nominating Committee consisted of 38 members, or one from each body represented by delegates present, and one each from the Army, Navy and Marine Hospital Service, the several delegations being called upon to name their members. In regard to these two very important Committees in the approaching Convention the following points are offered for consideration in advance, and for whatever they may be worth:

The Convention of 1880 consisted of about 116 accredited delegates; or, if duplicates and alternates be omitted, 104—69 medical and 35 pharmaceutical. About 80 of these were present, and therefore, the Nominating Committee of 38 was nearly half the Convention. Such a Committee, though very fairly representative, is too large for the best committee work, and the next Committee, if made up in the same way, will probably be still larger.

In the selection of permanent officers for the Convention this Committee might wisely discuss the advantages of having the offices of President of the Convention and Chairman of the Committee of Revision and Publication devolve upon one man, and of attaching a liberal salary to this office of ten years' duration of labor.

The Committee of Revision and Publication must of course select its own plan of work, but it would be entirely competent for the Convention, if it so pleased, to direct that every process and every test, including specific gravities, should be actually tried by expert hands before being accepted for publication; that is, that authorities on these points should not be accepted untried.

Again, it would be competent for the Convention if it chose to do so, now that there will be a moderate amount of money to start on, with every prospect of a sufficiency in the future, to direct that under the guidance and control of the Chairman the detail work should be done by well selected and well paid experts, and be submitted to subcommittees for comment and confirmation, thus reversing the order of work in the last revision, where want of funds rendered such a plan as this impracticable. By some such plan as this every process and every test would have a double security for its accuracy, and would be, *in this,* a great improvement upon former revisions. Besides, it would very much lighten and simplify the individual labors of the committeemen, and give them more time for the consideration of admissions, rejections and other changes, which require much reading up and careful deliberation.

The recent introduction to the materia medica of synthetic chemical substances, which are either patented or trade-marked, seems to indicate that although the substances are already numerous, they are still to become more numerous and more complex and confusing to the ordinary physician, and that no work of the Pharmacopœia is more important than to protect such physicians against the interested representations of trade in these very lucrative articles, if any of them should be admitted. The question as to their admission and as to how many of them is a most important one for the Committee, and one not to be lightly nor hastily settled. One difficulty in regard to these substances is comparatively new. Their chemical names are long and impracticable. Rational names are not easily, while empirical names are very easily found, and these are trade-marked or patented, and the tendency now is to trade-mark these, rather than to patent them, because patents expire in a definite time, but trade-marks continue to protect indefinitely.

In conclusion, the writer begs to lay all possible emphasis on the grave importance of this work to the medical profession, and to urge the need of sending the best and most conservative men to take active part in this Convention, remembering that inactive delegates, though in a numerical majority, carry little weight in Conventions of active men full of the spirit of mercantile enterprise.

ORIGINAL ARTICLES.

PHYSICAL EDUCATION IN CHILDREN.

Read in the Section of the Diseases of Children at the Fortieth Annual Meeting of the American Medical Association, June, 1889.

BY A. H. P. LEUF, M.D.,
DIRECTOR OF PHYSICAL EDUCATION AT THE UNIVERSITY OF PENNSYLVANIA.

It is my object in this paper only to call attention to the value of physical education in children for the prevention and cure of disease. But before this is done, it is best to consider briefly the physical condition of children.

Bones.—The bones of children are imperfectly formed. Many are semi-cartilaginous, while others consist of different segments held together by intervening cartilage. They are elastic, and full of blood and fat. The periosteum is thicker than in adults, and richly supplied with vessels. The connective tissue of young bone is tender, and hence has not as firm a union with tendons and ligaments as is found in adults. The cartilaginous union of the shafts of bones with their epiphyses makes violent exercise dangerous because it is likely to cause separation.

Muscles.—The muscles of children are in less of a developmental state than bone, though the muscle elements are not as firmly bound together as in adult bodies. Their nutritive supply is very liberal and they are generally surrounded by a liberal layer of fat. They contain a larger proportion of water than those of adults, and therefore are not so firm and hard as the latter.

Blood-vessels.—These are all relatively large in children and liberally supplied to nearly all parts of the body. They are more susceptible to impressions at this time of life than in later years. I mean that it is easier to develop them in childhood than in adult life, for they respond more readily to increased pressure and have a relatively better nutritive supply. Oxygenation of children is also better performed than in adults because the freshly ærated blood has a shorter distance to travel from the heart to the remotest parts of the body.

Nervous System.—While the nervous system is undergoing considerable development in children, it presents quicker reflexes than in adults, probably largely due to the shortness of the peripheral nerves, thus consuming less time in the transmission of the afferent and efferent impulses. But a child's nervous centres are more sensitive to stimuli and irritations, as is shown in their common reflex convulsions and febriculæ almost always readily controlled by the administration of nervous sedatives, notably the bromides. Shortness of limb, entirely aside from the rapid transmission of nervous impulses, is very conducive to the rapidity of movements so noticeable in children.

The Viscera.—The large liver and the relatively small lungs are prominent anatomical features in the child. The stomach and intestines are proportionately large, causing a decided abdominal bulging. The viscera of a child have a softness and vascularity in marked contrast to the same organs in the adult. All in all, children are a much more delicate organisms and require a comparatively greater amount of care.

Digestion.—The inbibition, digestion, and absorption of food in the child consists of a most interesting and important series of phenomena without a thorough understanding and apprecia- of which the proper physical education of children at any time is impossible. Too much stress cannot be laid upon this point, and it must always be remembered that no fixed dietary will do for any large number of children.

Growth and Development.—The child is undergoing constant changes of growth and development, all its powers being more active generally than those of adults. The association of its organs are new and more apt to be impressed by external influences than in an older organism. What would produce a moderate effect upon an older organism might be powerful in its influence upon a younger one. Adult organisms undergo but little further development while in children many changes have yet to occur. It follows that more care must be exercised in the direction of children's exercise than that of grown men and women.

At first sight it does not appear that exercise can have much effect upon the growth of bone, but the facts of experience teach that it is so. The explanation is simple. Young bone is but a connective tissue framework, filled with bone cells, or osteoblasts, and cartilage, and this blends directly with the surrounding periosteum, thus forming a continuous, direct, and intimate fibrous connection of the periosteum and the entire interior of the bone. In the same way can muscles be described as consisting of a connective tissue framework supporting muscle cells and their vessels and nerves. This all pervading connective tissue begins to predominate over the muscle element as it nears the end of the muscle to become modified into the tendon. This tendon loses itself in the periosteum and bone to which it is attached in very much the same way as its other end does in the muscle. Thus a muscle tendon is inserted into the very heart of the bone and not into its superficial layer, as is so commonly and erroneously supposed, and unfortunately too often taught.

From the intimate relations that I have indicated as existing between the connective tissue of bone and muscle and the intervening tendinous structures, it follows that forcible or sustained muscular contractions that pull upon a bone, act upon its deeper parts as well as upon its surface. It also follows that the depth at which the strain is felt in any bone depends upon the severity and duration of the force exerted.

It is a well known law in physiology that increased functional activity of a part causes an increased supply of blood. Suppose now that the child is doing considerable exercise, and we have at once an increased blood supply in its acting muscles and strained bone. If this is kept up a long enough time the increased blood current leads to a higher nutrition of the part—growth—and should the bone be in the developmental state, it will modify its development. As a proof of this effect of exercise upon bone, I will only call attention to the readiness with which anatomists usually distinguish the bones of a male from those of a female because of their larger size and the more decided markings of their ridges for muscular attachment. "This must have been a powerful man," is an expression often enough heard coming from teachers when looking over a skeleton with prominent ridges and tuberosities. In my paper on "Base Ball Pitcher's Arm" I had the opportunity to first call attention to the fact that bone growth in the adult is caused by excessive exercise.[1]

My sole object in being so explicit upon the effect of exercise upon bone is to show that it is a potential agent for doing much good or harm according to its proper or improper application. With this example well in mind, it is hardly necessary to demonstrate the equally potential power of exercise upon all the other parts of the body, when it has been conclusively proven to have so decided an effect upon the nutrition and growth of as hard and unyielding and relatively passive a substance as bone. Now what are the general effects of moderate and violent exercise in health?

Moderate Exercise in Health.—When judiciously taken, moderate exercise, in ordinary health, increases the nutrition of the body by increasing the heart's action, expanding the blood-vessels, increasing the secretions and excretions, and subsequently inducing tranquil and refreshing sleep. Besides this, it increases the vigor of the respirations, and thus the oxygenation of the blood. The body is pervaded by a healthy glow that remains for several hours, and is followed by a feeling of added strength without any subsequent reaction.

Violent Exercise in Health.—By violent exercise I mean any physical work that is felt as a decided task. All such is sure to induce local congestion at the seat of strain, and if persisted in will cause inflammation and hypertrophy. None of the organs subjected to these strains escape this inevitable result. In the young it may even cause epiphyseal separations, tearing of the periosteum, and rupture of muscle. It follows from this that moderate exercise is better adapted for general use among children than the more active and dangerous variety. For some purposes, though, the latter is more desirable, but it must be used with caution.

Therapy of the Exercise of Children.—Under this head I wish simply to mention some of the circumstances under which it is possible to benefit children either by exercise instead of, or in conjunction with, other means. Of these conditions some of the most important and prominent are *spinal curvatures* not dependent upon osseous disease. Several plans for the relief of this class of cases are now in vogue, but all seem to me more or less seriously defective. It is very generally, and I believe justly, supposed that these curvatures result from muscular weakness. Yet one plan is to treat them by a fixed plaster jacket, or by metallic braces. The defect of this treatment is that, while it may hold the column straight, it does not strengthen the weak muscles which should be able to hold the column in its proper position. Another method is to prescribe certain exercises that will develop certain muscles until they are strong enough to obliterate the curves by their contraction. This plan is also defective in that it only develops certain muscles, while others equally as important are overlooked. Sufficient success may, and often does, result from such treatment in so far as it pleases the patient by evident improvement. But the physician's work does not stop at this point. His business is to permanently restore abnormal conditions to a normal state. Special development of certain muscles does not do this, for by following such a plan one simply replaces one deformity by another. No treatment of deformities by physical exercise is devoid of serious error that does not affect the symmetrical development of the body.

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[1] Medical News, July 16, 1887.

For instance, in a dextral dorsal curvature due to muscular feebleness, the fashionable physical culture treatment now in vogue would compel the daily exercising of the muscles of the left side of the chest for the purpose of pulling out the ribs and reducing the concavity of the spine of that side. So far the utility and correctness of this treatment cannot be assailed. But it practically stops at this point, or with a few additional exercises, causing a bending of the trunk so as to antagonize the objectionable curve. The method is defective by omission. Of what avail is it to have a straight spinal column with muscles on one side much stronger than those on the other? A muscular deformity succeeds one that was bony. This is not all, for in course of time the stronger side predominates and the curve returns, but it is the reverse of what it was in the first instance. What is absolutely requisite to a permanent cure is general exercise for both sides, and a few supplementary exercises to help reduce the deformity without unnecessary delay. These may be of the calisthenic variety, or by means of dumb-bells, clubs, or pulley-weights. I prefer the last at all times when convenient. A suitable machine can be obtained for the moderate sum of ten dollars. I consider Reach's "O.K." machine by all odds the most useful in the market, and it is the cheapest, especially when one takes into consideration the numerous exercises for which it can be adjusted.

A lady who has just left for her home was under my care for a week, receiving instructions in calisthenic and pulley-weight exercises for two purposes: One series, to antagonize a dorso-lumbar curve, and the other to equally strengthen the muscles of her back and thus enable her to hold herself as erect as was intended by nature. She has a machine at home and will continue her work until this is no longer needed. In her case the cure will be permanent. Had she received instructions in only those exercises which antagonized her curves, she would have made a temporary recovery only to lapse into a reversed curvature.

Club Foot due to muscular weakness, as in cases caused by anterior poliomyelitis, are best treated with special exercises. One plan is to brace such a club foot in leather and steel, thus forcing the foot into proper position without any direct effort to regenerate the lost muscle power. Everything is left to time and the curative powers of nature. But this is neither scientific nor for what the physician receives his pay. The muscles actually atrophy to such an extent while braces are worn that they can never recover their functions. Another method, most ingenious, less unsightly than the former, and somewhat better, though also defective, is that which uses the artificial rubber muscle. If I am not mistaken, this was introduced a decade ago, by the ingenious Dr. V. P. Gibney, of New York. But the serious objection to the rubber muscle is that it also largely destroys the functional activity of the affected muscle by doing for it all its work. The plan of treatment which I advocate in all such cases is to use the brace where it is necessary to guard against accidental dislocation. The patient should only wear it when obliged to be on the feet, especially in locomotion. The rubber muscle should be worn when braces are not necessary, and when for æsthetic reasons it is desired to hide the deformity, but at all other times the foot should be permitted to fall into a natural position while exercises are practiced to develop the affected muscles. They should also be faradized while the cord should be moderately galvanised. I of course only refer to those cases in which the motive power has not been lost.

It has quite frequently been said that a child is a small savage undergoing civilization. It is irregular in its habits and tends to gormandize, as well as eat and drink without regard to the wholesomeness of what is within its reach. Regular physical exercise teaches it system, care, and discipline. Many children have a defective digestion due to many causes, common among which are defective circulation, defective nervous force, and defective muscle force in the stomach and belly walls. These are all remedied by proper exercise. Many forms of indigestion we all know yield kindly to suitable exercise, and in no class of individuals is this more so than in children.

Some children are morose, some have mental torpor, some are lazy, and so I could go through a list of ailments referable to the tone of the central nervous system. Now a fact that is but little appreciated is that, physical exercise is a nervous stimulant and tonic of the highest value, in fact, I believe it to have no par, and this conviction is the result of a large unbroken series of practical clinical observations. I know of no better demonstration of the effect of exercise in sharpening the wits than that given by Dr. Hamilton D. Wey in his reported experiments with some dullard criminals in the New York State Reformatory, at Elmira. It has the same beneficial effects in improving the disposition, for I have seen many disagreeable children become cheerful and good natured after becoming actively interested in a course of physical education. The exceptions are temporary and due to conceit growing out of distinctions earned by superior accomplishments in contests. As a rule this condition does not last.

Systematic physical exercise is impossible without personal cleanliness. Children who are brought up familiar with the gymnasium and track are clean and regular in their habits. Together with a weak body there is nearly always associated a high degree of backwardness due to false modesty, and also considerable lack of confidence. Now these are almost invariably lost after one or two years of gymnasium and out door athletic work. That this is a valuable change for those who in later years must fight the world's great battle cannot be gainsaid.

As physicians we all know the objections to the customary drinking of intoxicants and the use of tobacco. Their employment conflicts most positively with good athletic work of any kind. An early physical training of children compels them, or at least urges them, to dispense with intoxicating drinks or any form of tobacco. This alone would be reason enough to justify a demand for the early physical training of our children if there were no others. No athlete can get along without fresh and wholesome food. Therefore greater care in the acquirement of both of them would inevitably result from proper physical exercise.

The Physical Education Society of Pennsylvania has so far directed its main efforts towards introducing into the public schools of the State a system of compulsory physical education. It now exists in some parts of the country, notably in Milwaukee where the German Turners are doing so much good to the rising generation. It is confidently hoped that in less than another year Pennsylvania will be enrolled among those few States that have made a systematic attempt at the physical as well as the mental education of their children.

I can think of no better conclusion to this paper than a quotation from a former contribution of mine on this subject:

"1. The object of physical culture is to develop the material body, and with it, of necessity, the mind and morals.

"2. Like most potent agencies, it is much abused and far too little understood.

"3. It absolutely forbids smoking.

"4. It absolutely forbids the drinking of alcoholic or malt beverages.

"5. It insists upon the necessity of regularity in living, especially as regards time of sleeping, eating, exercise, and recreation.

"6. It enforces a good substantial dietary that will never be forgotten.

"7. It discountenances all kinds of vice.

"8. It is rigid in discipline without seeming to those disciplined, and develops implicit and obedience to advisors.

"9. It has a marked effect upon the growth of the body and mind.

"10. It develops to a high degree the valuable qualities of hope, confidence, courage, deference, obedience where proper, independence, perseverance, ambition, temperance, and determination.

"11. It is, in short, the most valuable preparation of the young for the cares and trials of adult life, and aids young and old alike to ward off disease and mitigate its effects."

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THE CONTROL OF EPIDEMIC DISEASES.

Read before the Section of State Medicine, at the Fortieth Annual Meeting of the American Medical Association, June, 1889.

BY G. T. SWARTS, M.D.,
OF PROVIDENCE, R. I.

By epidemic diseases we usually consider diseases which are contagious or infectious. I wish to include within this group all other diseases which may attack an unusual number of persons within a short space of time, as trichinæ "poisoning," disease resulting from the ingestion of diseased meats and other foods, poisoning from canned goods, diarrhœal disease resulting from the ingestion of contaminated milk, tuberculosis as disseminated by man or infected milk or flesh of animals so diseased—in fact any sudden onset of a number of cases in which often the physician is at a loss to make a diagnosis, but which by eliminative investigation proves to be due to some common cause, as contamination of milk, water supply, or air. Any control which may be of practical and most valuable service in such sudden outbreaks must be prompt.

It has been customary for several years in most cities to keep a record of the deaths resulting from the zymotic diseases. Later, from interest or curiosity, or later still, from practical use, it was made compulsory that the physician should report all such cases as might come under his care to the health authorities. In many cities, from the known contagiousness of these diseases, an immediate control of the cases is made by placing the case and the family, and those immediately exposed thereto, under quarantine. This is made more or less strict, and hence more or less of a success, as the advanced knowledge of the health officer may order, or in proportion as the health officer may have been able to affect public opinion. The family is warned not to receive visitors, the house is placarded, the premises inspected for unsanitary conditions which might have been a provoking or assisting cause in the production of the disease, and remedied as soon as possible for assistance in the recovery of the patient.

But without constant supervision and having ready the agents whereby an eliminative examination can be made, much valuable time may be lost, and what with a few cases could be easily fixed upon as a cause, becomes later, by the result of man's natural desire to protect himself and from fear, a mixed question. The physician, hearing of the prevalence of a certain line of symptoms, most naturally sees an almost similar line in the next case that he meets, and reports the case as the same as the one prevailing; and yet, under no stress of an epidemic, such a line of symptoms would find its way into a natural category.

In order that a control should be kept up it is necessary that some organized authority, such as a board of health or sanitation, should be established, whose legal powers and executive ability should have wide scope and cover considerable area. Where such authority borders upon other provinces a systematic exchange of suspicious conditions of cause or of result should be kept up, that each might serve the other.

In all epidemics of a serious character the experience has been that the disease has gained a wide spread before any organized movement for its study can be made. In order to control this a few cases should suffice to give the suspicion to an authority already established. In order that such authority may be able to take advantage of such ready action, it must be equipped with an assistance which is constantly in operation, and which should include within its working staff not only a chief officer, but also a medical inspector conversant by daily practice with inspecting and collecting for information every minute detail about the condition and associations of each individual case, whether the case be a typical one, or merely a suspect. The chief officer should have for assistance a chemist, a bacteriologist and a competent veterinarian, that with as little delay as possible any suspected contamination of the ingesta of the cases may be investigated.

There can be but three ways in which an epidemic disease (omitting those of nervous contagion, as hysteria, etc.) may originate, viz: either by inhalation of contaminated air, or by ingestion of fluids or solids. If a comprehensive control can be kept upon these three things by such a corps of assistants as has been cited, the chances of spread of disease can be reduced to a minimum.

Such a chief officer should be kept informed of the state of the various water supplies of his district, knowing the sources thereof and the many points where contamination might take place. This should include not only river, pond or well supply, but should extend to a control of all mineral waters, whether local or imported, and also its condition during storage or filtration. The source of every quart of milk received in his province should be known, as also the water supply of the cattle supplying the milk, and the physical condition of each individual animal in the herd should be known.

This seems at first thought as a vast undertaking, from our not having already such a control; but this was carried out in France as soon as the convention on tuberculosis made its report. Considering that milk is so common a food, and its defects in the way of tuberculous contaminating influences from disease on the animals, producing gastric and eruptive disturbances, especially in children, its chances of contamination by dilution and lack of cleanliness in handling, it is well worth all the attention which can be given to it, if a perfect control is desired. A control of the filthy methods in use for the collection of milk would alone do much towards assisting infants and children to tide over the heated term, and assist the typhoid patient with this as his only food to a chance of recovery.

A control upon the contamination of air is attempted in most cities by destroying all refuse matter by removal of decaying animal or vegetable matter to an unfrequented place, either for burial or cremation; also by checking the influx of foul air from cesspools and drains by the introduction of a trap and tight connections of waste and drains. A constant examination of the air in suspicious localities should be kept up, especially in places of public assembly, as in schools. As illustrating the method I would recommend in epidemic control I will cite two recent epidemics within this State.

The first occurred in the town of Bristol. Over one hundred people were attacked within the space of a few weeks with symptoms which resembled typhoid fever. The town had no working force for investigation, and the State Board of Health was in a similar condition of inefficiency. The writer was requested by the Council of the town to investigate the disease prevailing. The cases had been very generally reported by the physicians in attendance. A visit was made to the premises of each case, and every influence to which they had been exposed was given attention. This included, besides the examination of the sanitary condition of the premises, the source of milk and water supplies, the occupation, whether recently away from home, the ice supply; also the different ponds and tracts where the ice was gathered, and the water shed supplying the same, the vicinity of the pumping station and the bank of the river giving the water supply for some distance up the stream, and the storage tank or, reservoir. The meteorological observations of the previous months, the subsoil and strata in and about the town were all examined. The direction of previous epidemics was also noted. By recording the results of all the examinations together, and by such a method only, can an eliminative selection of cause be found.

In addition to this a chemical examination of the water supply was made, a bacteriological examination of the water and milk supplies, and also of the stools from the patients, but no typhoid bacilli were found. Eliminative evidence showed without doubt that a particular source of milk was a factor in the production of the disease.

This source of milk being shut off the epidemic ceased. The next point to be determined was whether the cows supplying this milk were diseased or whether they were ingesting material which might influence the character of the milk, and yet prove innocuous to the animals, and if such material were present, to determine whether it was air, water or food. To determine this a bacteriological examination of the air was made, samples being taken from in and about the barn before and after sweeping of the floor, which operation was performed just before the milking time and which created much dust. Nothing of note developed in the cultures, except the organisms usually found in air, the sarcinæ and one colony of the bacillus prodigiosus. Examinations of the milk were then made, taking specimens first from the cows direct, next from the pails, then from the strainer, and from the cans, directly after being filled, after they had stood in the ice box, and later after it had been delivered in town. Neither specimen developed in the cultures anything which would answer the test of Gaffky's typhoid bacillus, but each contained numerous colonies of a bacillus which resembled the wurzel or root-like bacillus. Gafiky's. This bacillus is found commonly in stagnant water, ditch or bog water or superficial garden soil. This discovery led to a suspicion of the drinking supply of the animals, and which had already been condemned, for the animals themselves were apparently healthy except one or two of the eight had glandular enlargements under the jaw which might or might not have been tubercular deposits.

The source of water supply for the animals had already been found to be a low marshy, boggy district, the pond being formed from the accumulation of surface water, being not over 6 or 7 inches deep and stagnant. The cows were in the habit of standing and walking about in this water, making it very muddy and drinking as their needs might demand. This pond also received the drainage from the farm-yard, which had not been cleaned of cow refuse for several years.

The wurzel bacillus has been shown to have no influence upon animals, and is non-pathogenic as far as man is concerned. The query might be presented, whether or not the organism, under the favorable conditions of warmth and food as found in the udder, or possibly in the cans after standing, might not have produced a ptomaine which, in its action upon the human intestine and other systems, was capable of producing a disease resembling typhoid fever. The cows were removed from this feeding ground and taken to another farm ten miles away. The milk from these cows continued to be sold in the town, and yet there appeared no more cases of the disease. Such an examination should be made at once, and by a corps whose special lines would be working at once that the epidemic character of the disease may be checked. One of the difficulties presented by delay in commencing the investigation was shown here. The customers of this particular milkman had become suspicious of the milk on account of there being several cases in his family and up to that time one death. As a result they refused to be supplied longer by him and obtained their supply from other milkmen. Naturally the other milkmen had not a sufficient supply to meet this sudden demand, the suspected milkman had more to sell on account of his losing customers, so he naturally supplied the other milkmen who were short, so that when the writer began the investigation he had more to unravel than if it was taken at the beginning. The above transactions actually took place, and the suspected dealer often was sold out before the other dealers.

The second epidemic[1] to which I wish to refer is a "short, sharp and decisive" one which occurred in Providence during the past fall. The disease was typical typhoid fever. The control was as follows:

The writer, as Medical Inspector, received the reports of all cases from the physicians attending. The premises of the cases were inspected, the sanitary conditions were at once improved when necessary, printed regulations as to disinfection were distributed, and cleanliness of the hands and cooking utensils urged upon the nurses and attendants. The sources of the water, ice, milk, etc., were noted. Within a week it was evident that an unusual number of cases were occurring. The Superintendent of Health immediately increased the force of medical inspectors in order that all cases reported in a morning's mail might be inspected before the following day.

No three milk supplies were from the same source. The sanitary conditions of the premises were comparatively good. The water supply was, however, common to all, namely, the city river supply. The Superintendent of Health at once suspected the river, and found that the river had been polluted with typhoid excrement about eighteen days previous during a heavy rainfall, the stools from typhoid patients having been thrown on the banks of the river for two or three months.

Fæces from the typhoid cases were examined and the typhoid bacillus found. Cultures taken from the spleen of the only autopsy made developed all cultures of the same bacillus, and the lesions of the intestines were typical of the disease.

Advantage was taken of the knowledge that small domestic filters are collectors of filth, and with this filth organisms of various sorts accumulate and increase with great rapidity in numbers.[2] Several of these small filters were taken from the faucets supplying water in houses where the disease existed, and were submitted to bacteriological examination by three bacteriologists independent of each other. Two of the three found the typhoid bacilli within the water of the filters, and from one developed great quantities of organisms found commonly in fæces.

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[1] The epidemic lasted about three weeks and between 200 and 300 cases occurred. The epidemic increased suddenly and as suddenly declined. See Report Supt. of Health, Providence, 1889.

All this was done at the commencement of the epidemic, as the Health Department had at its disposal the means and willingness to make a study of associations and, being in working order, was at an early date cognizant of the presence of the disease and of all the conditions by the daily reports of the Medical Inspector. As the only precautionary measure possible, the public were at once advised to boil all drinking-water in order to destroy any specific organisms which might have found their way to the tap, and to remove all filters from the faucets. The epidemic rapidly subsided, whether from cessation of the contamination or from the destruction of the bacilli in boiling the water it is impossible to say; probably much from both.

CHRONIC CYSTITIS IN THE FEMALE.

Read in the Section of Obstetrics and Diseases of Women at the Fortieth Annual Meeting of the American Medical Association, June, 1889.

BY AUGUSTUS P. CLARKE, A.M., M.D.,
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Of the various diseases the gynecologist is called upon to treat but few have oftener proved more vexatious or intractable than chronic cystitis. After a careful study of the pathology and histology of this peculiar condition several factors appear to comprise, to a greater or lesser extent, either singly, variously or remotely, its etiology. The lesions or morbid processes giving rise to cystitis, whether in the acute or chronic stage, are numerous. Each case should be considered according to its own history and peculiar indications. In the consideration of the subject of cystitis it is well to keep in mind the structure and anatomical relations of the mucous membrane of the bladder. Reference to the character and arrangement of the epithelial cells shows that there are several layers. The deeper layers are composed of cells that are conical or cylindrical in appearance. The superficial layer of the mucous membrane is provided with a squamous epithelium. The same arrangement is continuous with the structure of the urethra. This epithelial structure of the mucous membrane extends to the urethra, where numerous racemose mucous glands, the glands of Littre, have ducts opening on its surface. Littre's glands vary in size. They often exceed 1 millimetre in diameter and attain from 3 to 6 millimetres in length. Their office is to secrete mucus which protects the subjacent structure from immediate contact with the urine and from ferments or poisons which so frequently gain access into the urethra and bladder. The submucous coat is also provided with an extensive plexus of veins and loose areolar or connective tissue. The muscular coat of the urethra is formed of two layers, and is continuous with that of the bladder. This arrangement of parts gives the urethra and ostium vesicæ not only a remarkable power of distensibility but also a wonderful immunity against ordinary accidents and conditions that occur to the viscus itself.

In reading some of the published articles and discussions on cystitis a person unacquainted with the subject might be led to suppose that the formation of the structure of the female urethra and bladder is of such a nature as to be totally devoid of any important resisting power against the open or insidious attacks of the elements within or without, and that on the event of the urine becoming concentrated or a bacterium termo gaining admission into its folds the most disastrous consequences may be expected to follow. It should not be forgotten that the urine which is pale and of low specific gravity, voided by the nervous or hysterical female, often causes quite as much irritation or pain as is experienced in cases in which there is an abundance of sediment. In the treatment of cystitis the point should be emphasized that the symptoms present are often but a mere expression of the organ that there has occurred a lesion or a morbid process, and possibly at a distance from the part seemingly affected. In every case the true factors should be sought for and considered.

The following cases are appended to show the importance of some of the factors entering into the causation of the affection.

Case 1.—Mrs. R., æt. 21 years, married three years, miscarried in January, 1888. She recovered and remained in good health until January, 1889, when she began to suffer from severe cystitis. The patient consulted a female physician who prescribed vaginal irrigation of water at the temperature of 100° F., as well as the hot pack. This treatment was continued for some weeks without any marked beneficial effects. At th time I was called, April 17, I found the patient was four months advanced in pregnancy. She was suffering from a marked anteflexion. The suffering caused by the cystitis was unusually severe; there was also nausea and morning sickness. The patient was kept in bed; the uterus was restored and maintained in the proper position, at first by vaginal tampons, later by a properly fitting pessary and an abdominal belt. After two weeks of treatment nearly all vesical disturbance ceased, the nausea and vomiting in great measure passed away.

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[2] See Proceedings of Rhode Island Medical Society, 1888.

The importance of fibrous adhesions or cicatricial bands in prolonging an attack of cystitis occurred some years ago in the case of Mrs. D., æt. 37 years. The patient had been married but had borne no living children. There was a history of pelvic inflammation from which she had recovered, but a cystitis remained which was a constant source of trouble. When I was called to treat her a vaginal examination was refused. At length I succeeded in convincing the patient that an examination was necessary I found a strong fibrous band connecting the posterior lip of the cervix to the vaginal wall below. This firmly held the uterus and dragged upon the bladder. The index finger could be made to pass around it when it was divided, and the uterus and the bladder were restored without further trouble. The patient soon recovered from the vesical disturbance.

Vascular growths within the meatus urinarius often give rise to very distressing symptoms of cystitis. At the meeting of the Ninth International Medical Congress held in Washington, D. C., September, 1887, I presented to the Section in Gynecology a paper on the histology and pathology of these growths. I also reported several cases in which the removal of the growths was followed by relief of all distressing symptoms. Diseases and injuries of the ovaries often give rise to prolonged and intractable attacks of cystitis. Mrs. G., æt. 34 years, mother of two children, was of sound constitution and in good health until January, 1888, when, on alighting from a horse-car, she sustained concussion of the right ovary. There was severe shock at the time, and the patient was kept in bed for some three weeks, and was unable to attend to any of her domestic affairs for three months. Careful examination revealed a thickening of the vault of the vagina on the right, also an undue closure of the cervix. There was no displacement of the ovary; her menstruation was disturbed and for awhile became irregular. The disturbance extended to the urinary organs. Though repeated examinations of the urine showed no signs of the presence of pathological processes of the bladder, an intractable attack of cystitis nevertheless supervened, which continued more or less even after the legal settlement of the claim against the company had been made.

Mrs. L., æt. 34 years, of a phthisical family, had a history of pelvic inflammation of long standing. There was a manifest enlargement of the left ovary which from time to time was the source of great annoyance and was attended occasionally with severe cystitis. Repeated examination of the urine gave only negative results. Opiates and other remedies usually employed gave only temporary relief. Washing out the bladder with a solution of nitrate of silver, 30 grs. to the ounce, as has been recommended by some writers, though a painful procedure, yielded most excellent results.

Anal and rectal inflammations are not uncommon causes of cystitis. Mrs. E., æt. 33 years, who had been married and was a primipara, began in March, 1881, to suffer from cystitis. I was first called in attendance April 28, 1881. At the time I was called there was severe pain and irritation of the urinary passages. The urine had to be voided at frequent intervals and each effort was attended with much strangury. The urine was turbid, the deposit being amorphous urates. Vaginal examination revealed nothing of importance. There were internal hæmorrhoids and a fissure on the anterior aspect of the rectum. Under ether the hæmorrhoids were removed and the anal sphincter ruptured. This was followed by speedy relief and the patient in a short time was fully restored to health.

Another case in which a severe and prolonged cystitis was caused by reflex symptoms was that of Miss F., æt. 19 years. So marked and severe were the symptoms that, before the case was fully investigated, nothing but a calculus was believed to be the cause of the trouble. The urine for a long time had contained a deposit of white corpuscles resembling that of pus and mucus. Under ether an anteflexion of the uterus was discovered which on being restored and held *in situ* by properly fitting pessaries, the painful symptoms at length yielded and the urine finally became normal in appearance.

Sometimes urethritis accompanied by cystitis arises from a contracted and an hypertrophied condition of the meatus. In such cases micturition is usually accompanied by more or less tenesmus. This condition of the parts may continue for years and cause a great deal of suffering. In the treatment nothing has given me so great a satisfaction as that of rapid dilatation of the urethra. Mrs. R., æt. 60 years, had suffered for five years from painful micturition. No cause at first could be assigned for this affection. The urine was turbid, alkaline, and contained an abundance of mucus and triple phosphates. The patient had been under a long course of constitutional treatment without any apparent benefit. At the time I was called, October 30, 1876, the meatus and urethra were abnormally narrow and the parts around were thickened. Under ether the urethra was dilated sufficiently to admit the index finger. The patient speedily recovered and there has been no return of the affection. Since that I have resorted to the method of rapid dilatation in cases in which tenesmus is a leading feature, and in which the tissues around have been contracted and hypertropied.

There are cases of vesical catarrh in which the walls of the bladder have become so changed and hypertrophied, and the tenesmus so marked a feature that rapid dilatation, even when supplemented by irrigation carried out with the most improved means at hand, utterly fails to afford relief. In such cases Emmet's operation for artificial vesico-vaginal fistula is not only justifiable but imperatively demanded. On January 24, 1873, I was called to attend Mrs. F., primipara æt. 48 years, who had suffered for several months from vesical catarrh accompanied by violent tenesmus. As every method of treatment tried proved unavailing I advised that the bladder should be incised through the vaginal wall in order to insure easy and complete drainage of that viscus. The advice was readily accepted; accordingly, on February 1, 1873, under ether, an incision was made through the vaginal wall into the bladder. Drainage for awhile was maintained by means of a short silver catheter. The distressing symptoms soon gave way, and on February 26 the patient felt such a sense of relief that she regarded herself as substantially cured. The artificial fistula closed spontaneously. The patient lived thirteen years after, and during that period there was no return of the complaint. Since then the relief afforded in other cases in which this method was adopted has been almost as singularly marked. Of course the difficulties sometimes attending the subsequent closure of an artificial fistula must not be altogether overlooked. Speaking from my own experience, I have found that the cases in which the operation for kolpocystotomy or artificial vesico-vaginal fistula is required are such as have lasted for years. The mucous membrane will often be found detached, and an inflammation extending to the muscular and even to the serous coats. The mucous and vaginal surfaces will often be found encrusted with phosphatic deposits and other products that emit an offensive odor. Should the inflammation continue unchecked, permanent contraction of the bladder would ensue, the ureters would become congested and occluded, the urine become alkaline and loaded with mucus, pus or other abnormal products. Although it would be deemed rash and unnecessary to resort to the operation for kolpocystotomy in all cases of troublesome cystitis, on the other hand, should the operation be deferred until all other methods have failed, the integrity of the kidneys will be jeopardized and all opportunity for cure or relief may be lost. The following case illustrates in some measure the importance of this statement: Mrs. D., æt. 31 years, was the mother of three children, the youngest of whom was 5 years. The labors were normal and she recovered well from each confinement. The last confinement occurred in August, 1880. During the month of May, 1881, the patient sustained a severe fall from a flight of stairs, fracturing her right leg in the upper third and injuring her back and loins. The fracture at the time was attended to, and a satisfactory union took place. After the second week of the injury a cystitis more or less severe supervened. There was, however, no paralysis of the limbs, and the patient was not prevented from going out and taking short drives and considerable exercise on foot. During the spring of 1882 the cystitis became more severe. The patient was confined to bed. An examination showed there was no flexion or displacement of the uterus. The ordinary course of treatment was pursued, including vaginal and vesical irrigation. All operative measures proposed were declined. The case dragged on until the autumn of 1885, when it terminated fatally. The autopsy showed that the bladder was thickened and contracted into a small mass. The ureters were thickened and plugged and also tortuous; the kidneys were found to be in a state of granular degeneration.

In reviewing the history and symptoms of this case I have no doubt, had operative measures in the spring of 1882, when the troublesome symptoms became so pronounced, been undertaken and carried out from time to time as indicated, the patient's life would have been saved and much severe suffering prevented.

Sometimes cases of cystitis that are apparently quite severe readily yield to the milder means of treatment. Faradism with one pole near the urethra and the other over the bladder gives speedy relief. Saline laxatives and mineral waters are of great benefit in the treatment. A douche of corrosive sublimate 1–2,000 will often prove beneficial in cases in which no marked organic changes have occurred, and in which the troublesome symptoms are due to septic ferments and to uncleanliness generally. No general rule or special course of treatment can be laid down that is applicable alike in all cases. Suffice it to say that each case as it occurs must be studied and treated according to the peculiar indications. The medical attendant should recognize the fact that some cases of chronic cystitis apparently very formidable, as already stated, will readily yield to the simple and mild method of treatment employed; while others may occur that will defy all recognized methods of treatment and can be cured or corrected only after the most skilful and ingenious operations have been resorted to.

A MUNIFICENT FRIEND OF THE SICK.—The name of the donor of the large sum of a hundred thousand pounds for a convalescent home near London has come to light, notwithstanding his wishes to keep in the background; his name is Peter Reid. He has already been prominent for generous interest in hospitals and other charitable institutions, but his last grand gift to the sick poor of London was announced as from an anonymous source in January last.

St. Robert Nelig Library

ALCOHOLIC TRANCE IN CRIMINAL CASES.

Read in the Section of Medical Jurisprudence, at the Fortieth Annual Meeting of the American Medical Association, June, 1889.

BY T. D. CROTHERS, M.D.,
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The frequent statement of prisoners in court that they did not remember anything about the crime they are accused of, appears from scientific study to be a psychological fact. How far this is true in all cases has not been determined, but there can be no question that crime is often committed without a conscious knowledge or memory of the act at the time.

It is well known to students of mental science, that in certain unknown brain states memory is palsied, and fails to note the events of life and surroundings. Like the somnambulist, the person may seem to realize his surroundings and be conscious of his acts, and later be unable to recall anything which has happened. These blanks of memory occur in many disordered states of the brain and body, but are usually of such short duration as not to attract attention. Sometimes events that occur in this state may be recalled afterwards, but usually they are total blanks. The most marked blanks of memory have been noted in cases of epilepsy and inebriety. When they occur in the latter they are called *alcoholic trances*, and are always associated with excessive use of spirits. Such cases are noted in persons who use spirits continuously, and who go about acting and talking sanely, although giving some evidence of brain failure, yet seem to realize their condition and surroundings. Some time after, they wake up and deny all recollection of acts and events for a certain period in the past. This period to them begins at a certain point and ends hours or days after, the interval of which is a total blank, like that of unconscious sleep. Memory and certain brain functions are suspended at this time, while the other brain activities go on as usual. In all probability, the continued paralysis from alcohol not only lowers the nutrition and functional activities of the brain, but produces a local palsy, followed by a temporary failure of consciousness and memory, which after a time passes away.

When a criminal claims to have had no memory or recollection of the crime of which he is accused, if his statement is true, one of two conditions is probably present, either epilepsy or alcoholism. Such a trance state might exist and the person be free from epilepsy and alcoholism, but from our present knowledge of this condition it would be difficult to determine this fact. If epilepsy can be traced in the history of the case, the trance state has a pathological basis for its presence. If the prisoner is an inebriate, the same favoring conditions are present. If the prisoner has been insane, and suffered from sun or heat stroke, and the use of spirits are the symptoms of brain degeneration, the trance state may occur any time. The fact of the actual existence of the trance state is a matter for study, to be determined from the history of the person and his conduct; a grouping of evidence that the person cannot simulate or falsify, evidence that turns not on any one fact, but on an assemblage of facts that point to the same conclusion.

The following cases are given to illustrate some of these facts, which support the assertion of no memory of the act by the prisoner in court:

The first case is that of A., who was repeatedly arrested for horse stealing, and always claimed to be unconscious of the act. This defense was regarded with ridicule by the court and jury, and more severe sentences were imposed, until finally he died in prison. The evidence offered in different trials in defense was, that his father was weak-minded and died of consumption, and his mother was insane for many years, and died in an asylum. His early life was one of hardship, irregular living, and no training. At 16 he entered the army, and suffered from exposure, disease and sunstroke, and began to drink spirits to excess at this time. At 20 he was employed as a hack driver, and ten years later became owner of a livery stable. He drank to excess at intervals, yet during this time attended to business, acting sanely, and apparently conscious of all his acts, but often complained he could not recollect what he had done while drinking. When about 34 years of age he would, while drinking, drive strange horses to his stable, and claim that he had bought them. The next day he had no recollection of these events, and made efforts to find the owners of these horses and return them. It appeared that while under the influence of spirits the sight of a good horse hitched up by the roadside alone, created an intense desire to possess and drive it. If driving his own horse, he would stop and place it in a stable, then go and take the new horse, and after a short drive put it up in his own stable, then go and get his own horse. The next day all this would be a blank, which he could never recall. On several occasions he displayed reasoning cunning, in not taking a horse when the owners or drivers were in sight. This desire to possess the horse seemed under control, but when no one was in sight all caution left him, and he displayed great boldness in driving about in the most public way. If the owner should appear and demand his property he would give it up in a confused, abstract way. No scolding or severe language made any impression on him. Often if the horse seemed weary he would place it in the nearest stable, with strict orders to give it special care. On one occasion he joined in a search for a stolen horse, and found it in a stable where he had placed it many days before. Of this he had no recollection. In another instance he sold a horse which he had taken, but did not take any money, making a condition that the buyer should return the horse if he did not like it. His horse stealing was all of this general character. No motive was apparent, or effort at concealment, and on recovering from his alcoholic excess, he made every effort to restore the property, expressing great regrets, and paying freely for all losses. The facts of these events fully sustained his assertion of unconsciousness, yet his apparent sanity was made the standard of his mental condition. The facts of his heredity, drinking, crime and conduct, all sustained his assertion of unconsciousness of these events. This was an alcoholic trance state, with kleptomaniac impulses.

The next case, that of B., was executed for the murder of his wife. He asserted positively that he had no memory or consciousness of the act, or any event before or after. The evidence indicated that he was an inebriate of ten years' duration, dating from a sunstroke. He drank periodically, for a week or ten days at a time, and during this period was intensely excitable and active. He seemed always sane and conscious of his acts and surroundings, although intensely suspicious, exacting, and very irritable to all his associates. When sober he was kind, generous and confiding, and never angry or irritable. He denied all memory of his acts during this period. While his temper, emotions, and conduct were greatly changed during this time, his intellect seemed more acute and sensitive to all his acts and surroundings. His business was conducted with usual skill, but he seemed unable to carry out any oral promises, claiming he could not recollect them. His business associates always put all bargains and agreements in writing when he was drinking, for the reason he denied them when sober. But when not drinking his word and promise was always literally carried out. He broke up the furniture of his parlor when in this state, and injured a trusted friend, and in many ways showed violence from no cause or reason, and afterwards claimed no memory of it. After these attacks were over, he expressed great alarm and sought in every way to repair the injury. Finally he struck his wife with a chair and killed her, and awoke the next day in jail, and manifested the most profound sorrow. While he disclaimed all knowledge of the crime, he was anxious to die and welcomed his execution. This case was a periodical inebriate with maniacal and homicidal tendencies. His changed conduct, and unreasoning, motiveless acts, pointed to a condition of trance. His assertion of no memory was sustained by his conduct after, and efforts to find out what he had done and repair the injury.

The third case, that of C., was a man of wealth and character who forged a large note, drew the money and went to a distant city on a visit. He was tried and sentenced to State prison. The defense was no memory or consciousness of the act by reason of excessive use of alcohol. This was treated with ridicule. Although he had drank to excess at the time of and before the crime, he seemed rational and acted in no way as if he did not understand what he was doing. Both his parents were neurotics, and he began to drink in early life, and for years was a moderate drinker. He was a successful manufacturer, and only drank to excess at times for the past five years. He complained of no memory during these drink paroxysms, and questioned business transactions and bargains he made at this time. On one occasion he went to New York and made foolish purchases which he could not recall. On several occasions he discharged valuable workmen, and when he became sober took them back, unable to account for such acts. These and other very strange acts continued to increase with every drink excess. At such times he was reticent and seemed to be sensible and conscious, and did these strange acts in a sudden, impulsive way. The forged note was offered boldly, and no effort was made to conceal his presence or destination. When arrested he was alarmed and could not believe that he had done so foolish an act. This was a clear case of alcoholic trance, in which all the facts sustained his assertion of no conscious memory of the crime. In these three cases the correctness of the prisoners' assertions of no memory was verified by all the facts and circumstances of the crime. The mere statement of a person accused of crime, that he had no memory of the act, should lead to a careful examination and be only accepted as a fact when it is supported by other evidence.

The following case illustrates the difficulty of supporting a prisoner's statement of no memory when it is used for purposes of deception:

Case E.—An inebriate killed a man in a fight, and was sentenced to prison for life. He claimed no memory or recollection of the act. I found that when drinking he seemed conscious of all his surroundings, and was always anxious to conceal his real condition, and if anything had happened while in this state he was very active to repair and hush it up. He was at times quite delirious when under the influence of spirits, but would stop at once if any one came along that he respected. He would, after acting wildly, seem to grow sober at once, and do everything to restore the disorder he had created. The crime was an accident, and at once he attempted concealment—ran away, changed his clothing, and tried to disguise his identity; when arrested, claimed no memory or consciousness of the act. This claim was clearly not true, and contradicted by the facts.

In a recent case F. shot his partner in business while both were intoxicated, and displayed great cunning to conceal the crime and person; then, after elaborate preparations, went away. He made the same claim of defense, which was unsupported by any other evidence or facts in his previous life. He was executed. Of course it is possible for the trance state to come on suddenly, and crime be committed at this time; still, so far, all the cases studied show that this condition existed before, and was the product of a growth beginning in brief blanks of a few moments and extending to hours' and days' duration. Unless the facts indicated the trance state before the crime was committed, it would be difficult to establish this condition for the first time, followed and associated with the crime.

I think in most of these cases, where this defense is set up, there will be found certain groups of cases that have common physical conditions of degeneration. These groups of cases I have divided from a clinical standpoint, the value of which will be more as an outline for future studies.

Probably the largest number of criminal inebriates who claim loss of memory as a defense for their acts are the alcoholic dements. This class are the chronic inebriates of long duration: persons who have naturally physical and mental defects, and who have used spirits to excess for years. This, with bad training in early life, bad surroundings, and bad nutrition, have made them of necessity unsound, and liable to have many and complex brain defects. Such persons are always more or less without consciousness or realization of their acts. They act automatically only, governed by the lowest and most transient impulses. Crimes of all kinds are generally accidents growing out of the surroundings, without premeditation or plan. They are incapable of sane reasoning or appreciation of the results of their conduct. The crime is unreasoning, and general indifference marks all their acts afterwards. The crime is always along lines of previous conduct, and never strange or unusual. The claim of no memory in such cases has always a reasonable basis of truth in the physical conditions of the person. Mania is very rarely present, but delusions and morbid impulses of a melancholic type always exist. The mind, like the body, is exhausted, depressed, and acts along lines of least resistance.

The second group of criminals who claim no memory are those where the crime is unusual, extraordinary, and unforeseen. Persons who are inebriates suddenly commit murder, steal, or do some criminal act that is foreign to all previous conduct. In such cases the trance condition may have been present for some time before and escaped any special notice, except the mere statement of the person that he could not recollect his acts. The unusual nature of the crime, committed by persons who never before by act or thought gave any indication of it, is always a factor sustaining the claim of no memory. The explosive, unreasoning character of crime always points to mental unsoundness and incapacity of control.

A third group of criminals urge this statement of no memory, who, unlike the first group, are not imbeciles generally. They are positive inebriates, drinking to excess, but not to stupor, who suddenly commit crime with the most idiotic coolness and indifference, never manifesting the slightest appreciation of the act as wrong, or likely to be followed by punishment. Crime committed by this class is never concealed, and the criminal's after conduct and appearance gives no intimation that he is aware of what he has done. These cases have been termed moral paralytics, and the claim of the trance state may be very likely true.

A fourth group of cases where memory is claimed to be absent occurs in dipsomaniacs and periodical inebriates, who have distinct free intervals of sobriety. This class begin to drink to great excess at once, then drink less for a day or more, and begin as violently as ever again. In this short interval of moderate drinking some crime is committed of which they claim not to have any recollection.

Other cases have been noted where a condition of mental irritation or depression preceded the drink explosion, and the crime was committed during this premonitory period, and before they drank to excess. The strong probability of trance at this period is sustained by the epileptic character of such conduct afterwards. The trance state may justly be termed a species of *aura*, or brain paralysis, which precedes the explosion.

In some instances, before the drink storm comes on, the person's mind would be filled with the most intense suspicions, fears, delusions, and exhibit a degree or irritation and perturbation unusual and unaccountable. Intense excitement or depression, from no apparent cause, prevails, and during this period some crime may be committed; then comes the drink paroxysm, and later all the past is a blank. Trance is very likely to be present at this time.

In these groups the crime is generally automatic, or committed in a manner different from other similar crimes. Some governing center has suspended, and all sorts of impulses may merge into acts at any moment. The consciousness of acts and their consequences are broken up. The strong probability is that these trance blanks begin in short periods of unconsciousness, which lengthen with the degeneration and mental feebleness of the person. The obscurity of these conditions, and the incapacity of the victims to realize their import, also the absence of any special study, greatly increases the difficulty. It will be evident from inquiry that trance states among inebriates are quite common, but seldom attract attention unless they come into legal notice. The practical question to be determined in a given case in court is the actual mental condition of the prisoner, who claims to have no recollection of the crime. This a class of evidence that must be determined by circumstantial and collateral facts, which require scientific expertness to gather and group. The court can decide from the general facts of the crime and the prisoner whether his claim of no memory may possibly be true, and order an expert examinaation to ascertain the facts. This should be done in all cases where the prisoner is without means, in the same way that a lunacy commission is appointed to decide upon the insanity. The result of this expert study may show a large preponderance of evidence sustaining the claim of no memory, or the opposite. If the former, the measure of the responsibility must be modified, and the degree of punishment changed. While such cases are practically insane at the time, and incapable of realizing or controlling their acts, they should be kept under legal and medical surveillance for a lifetime, if necessary. Such men are dangerous, and should be carefully watched and deprived of their liberty for a length of time depending on recovery and capacity to act rationally and normally. They are dangerous diseased men, and, like victims of contagious disease, must be housed and treated.

The future of such cases depends on the removal of the causes which made them what they are. The possibility of permanent restoration is very promising in most cases. How far alcoholic trance exists in criminal cases is unknown, but the time has come when such a claim by criminals cannot be ignored, and must be the subject of serious inquiry. Such a claim cannot be treated as a mere subterfuge to avoid punishment, but should receive the same attention that a claim of insanity or self-defense would. This is only an outline view of a very wide and most practical field of medico-legal research, largely unknown, which can be seen in every court room of the land. These cases appeal to us for help and recognition, and the highest dictates of humanity and justice demand of us an accurate study and comprehension of their nature and character.

The following summary of the leading facts in this trance condition will be a standpoint for other and more minute investigations:

1st. The trance state in inebriety is a distinct brain condition, that exists beyond all question or doubt.

2d. This brain state is one in which all memory and consciousness of acts or words are suspended, the person going about automatically, giving little or no evidence of his real condition.

3d. The higher brain centers controlling consciousness are suspended, as in the somnambulistic or hypnotic state. The duration of this state may be from a few moments to several days, and the person at this time may appear conscious and act naturally, and along the line of his ordinary life.

4th. During this trance period crime against person or property may be committed without any motive or apparent plan, usually unforeseen and unexpected. When accurately studied such a crime will lack in the details and methods of execution, and also show want of consciousness of the nature and results of such acts.

5th. When this condition passes away the acts and conduct of the person show that he did not remember what he had done before. Hence his denial of all recollection of past events, and his changed manner confirm or deny his statements.

6th. When such cases come under judicial inquiry the statement of the prisoner requires a scientific study before it can be accepted as a probable fact. It cannot be simulated, but is susceptible of proof beyond the comprehension of the prisoner.

7th. In such a state crime and criminal impulses are the result of unknown and unforeseen influences, and the person in this condition is dangerous and an irresponsible madman.

8th. This condition should be fully recognized by court and jury, and the measure of responsibility and punishment suited to each case. They should not be punished as criminals, nor should they be liberated as sane men. They should be housed and confined in hospitals.

ON THE ORGANIZATION AND ABSORPTION OF STERILIZED DEAD BONE DOWELS.

Read in the Section of Surgery and Anatomy, at the Fortieth Annual Meeting of the American Medical Association, June, 1889.

BY WILLIAM BARTON HOPKINS, M.D.,
SURGEON TO THE EPISCOPAL HOSPITAL, AND SURGEON TO OUT-DEPARTMENT OF PENNSYLVANIA HOSPITAL
AND BY
CHARLES B. PENROSE, M.D., PH.D.,
ASSISTANT SURGEON TO THE HOSPITAL OF THE UNIVERSITY OF PENNSYLVANIA; SURGEON TO OUT-DEPARTMENT OF PENNSYLVANIA HOSPITAL.

Mr Wm. Scovell Savory, in 1864, demonstrated, by a series of experiments performed upon various animals, principally the rabbit, that ivory pegs driven into healthy living bone would, after a time, undergo greater or less absorption. He found, however, that in order to obtain this result, it was necessary that the peg be driven tightly into a hole which was a trifle too small for it. Upon this observation, he concluded that firm pressure upon the surface of dead bone against the living was the essential factor in causing the absorption. His experiments were, of course, done long before the antiseptic era, and we may venture to assume that that gentleman to-day shares our opinion, that the dead bone was absorbed when it impinged firmly against the living because the closeness of its contact diminished the space for the accumulation of septic matter. Bone pegs have since been used to fix together extremities of bones after excisions; but we believe that the experiments here recorded are the first of the kind which have been performed, with antiseptic precautions, upon the lower animals, and with the view of determining how long foreign bone can be determined upon for giving fixation, and the ultimate changes which take place in it during the processes of absorption or organization, when placed in contact with living osseous tissue.

Experiment No. 1.—A large cur pup was etherized, and after exposure of the shaft of the right femur, a sterilized ox bone dowel was placed in a hole, which had been drilled transversely through the shaft, and was cut off flush with the surface. The incision for exposing the bone in this case, as in all the subsequent experiments, being carried down in the intermuscular septum overlying the linea aspera, little muscular tissue was divided, and hence but little bleeding occurred during the operation. The wound was approximated by a continuous suture of chromicized catgut, and was sealed with collodion and powdered iodoform. The wound healed without suppuration, and at the end of five weeks the dog was again etherized and the section of the femur in which the bone dowel had been placed, was removed. From this, as from other experiments, Dr. Allen J. Smith made careful microscopic sections, the best of which were unfortunately destroyed in the fire at the histological laboratory of the University of Pennsylvania. The remarkable changes which occurred in five weeks are shown in Figure 1, and in the microscopic section, Figure 2. Two distinct phenomena are apparent: that of organization, and that of absorption. The extremities of the dowel which were in contact with the shaft of the femur had become thoroughly organized, being full of Haversian canals continuous with those of the dog bone, of which they had become part; and on fresh section showed the pink hue of living vascular bone. The intervening portion, between these extremities, corresponding to the medullary cavity, showed no attempt at organization, as it was pure white on fresh section, and contained no Haversian canals, but the erosions on its surface clearly indicated that rapid absorption was taking place.

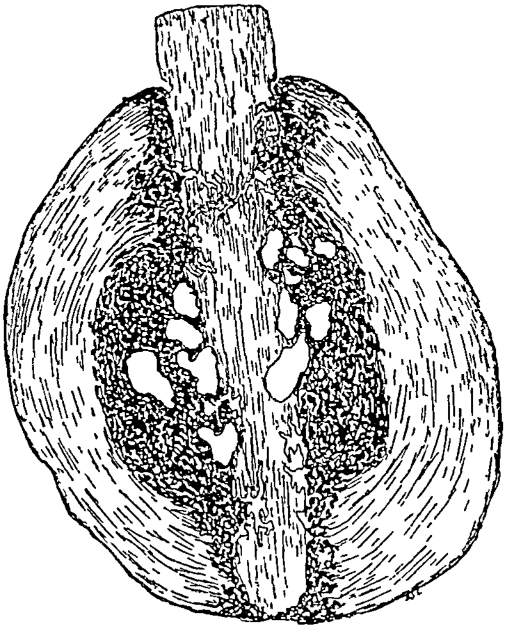

FIGURE 1.—Showing bone dowel after five weeks undergoing organization and absorption.

A deep furrow which surrounds the dowel at the point where it penetrated the periosteum, shows an effort of this membrane to sever that portion of the dowel which projected beyond the level of the shaft of the femur, and would in all probability, had the action gone on, have allowed this free portion to drop off into the surrounding tissues.

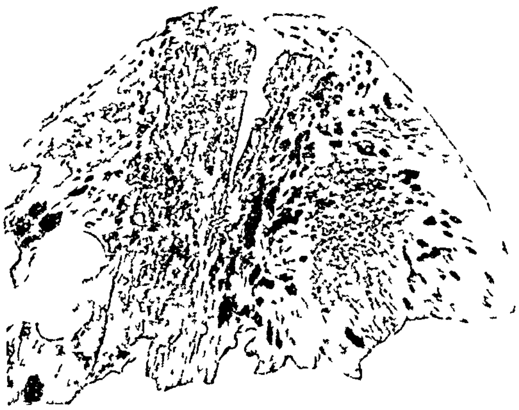

FIGURE 2.—Showing microscopic appearances of Experiment No. 1.

Experiment No. 2.—The left femur of a healthy carriage dog was exposed and a dowel an eighth of an inch in diameter was introduced, as in the preceding experiment. At the end of seven weeks the femur at the site of the operation was again sought, and the only evidences that remained of the introduction of the peg were pin point dimples in the opposite sides of the shaft of the bone. This section was sent to Dr. Smith unsawn, and we have his statement that organization and absorption had been so complete that almost all vestiges of the dowel had disappeared. All of the microscopic sections from this specimen were destroyed in the fire. Figure 3 represents a memory sketch.

Experiments Nos. 3, 4, 5, 6, 7, 8, 9 and 11 were all done with the view of determining the effect produced by splicing together the fragments of the femur with bone after it had been divided. While the success attained in these experiments was only measurable, they may be considered satisfactory when the inordinate liberties which were taken with the bone are remembered. The simplest form of splicing was done by two transfixing dowels, as would be applicable to the fixation of a simple oblique fracture. A transverse section of the shaft was spliced by the introduction of a dowel, which accurately fitted into the medullary cavity one inch or less on either side of the fracture; the pin being, in some of the experiments, held in position above and below by cross-pins of a smaller size, made to pass through it and the shaft of the bone. Again, an hiatus in a resected femur was filled up by a medullary splice, retaining the fragments at a distance of half an inch apart. The material of which this medullary pin was composed was either dead bone or freshly removed living dog-bone.

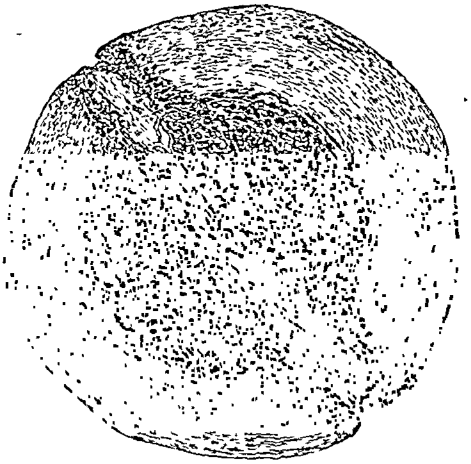

FIGURE 3.—Memory sketch of the appearances of bone dowel after seven weeks.

All of these cases suppurated, and at the end of periods varying from nine weeks to nine months the dog was killed and the femur removed. In all more or less necrosis was found to have occurred, accompanied by different degrees of osteitis, and without organization of the dowels. The best result was obtained in Experiment No. 7. Three-fourths of an inch (containing in it the site of a previous experiment) of the femur was resected and a dowel a quarter of an inch in diameter introduced into the medullary cavity, which latter had been reamed out with a quarter inch drill. This joint was made very firm by eighth-of-an-inch cross pegs, above and below. In this case a sinus continued for several months, but finally closed, leaving the dog with a very strong, useful limb. At the end of nine months the dog was killed and the femur removed. Firm union, with angular deformity (Figure 4), was found to have taken place; a few small fragments of necrosed dog-bone, undergoing absorption, were found on section in a small cavity; but no signs remained of the heavy medullary dowel, nor of the small cross pegs.

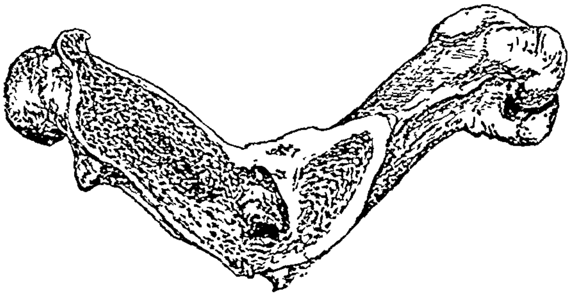

FIGURE 4.—Femur of dog in which dowel filled medullary cavity, after nine months; entire absorption, union with angular deformity.

Experiment No. 10.—Experiment No. 10 was simply a repetition of experiments Nos. 1 and 2, the dowel being allowed to remain eight weeks. The processes of absorption and organization were found to have gone on, as in the other cases, to a somewhat more advanced degree. Throughout its entire length, extension of the blood vessels of the bone had penetrated the dowel (Figure 5), particularly so at points where it was in continuity with endostium.

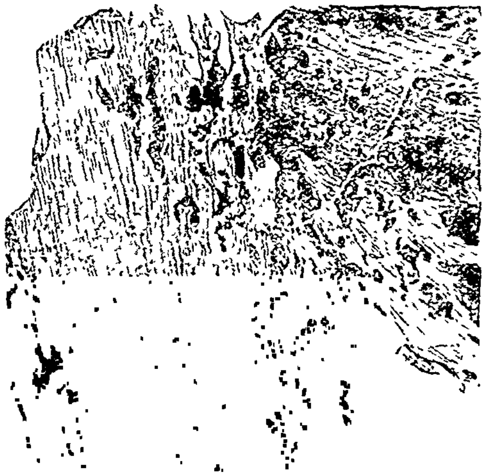

FIGURE 5.—Showing microscopic appearance of bone dowel after eight weeks (the dowel occupying the left side of the field).

Mode of Preparation.—The dowels used in these experiments were made from ordinary beef bone, as it is prepared for use in the arts. They were sawn into square rods, and then turned by *dowel-cutters* of appropriate sizes. After thorough boiling they were placed in an alcoholic solution of corrosive sublimate (1–1000), ready for use. They were not found to swell at all in this solution, and therefore accurately fitted the drill-holes made for them, even after prolonged immersion.

The only cases which have come under our observation in which these dowels were used upon the human subject, were in two osteoplastic resections of the foot, after the method of Wladimiroff-Mikulicz, performed, the one by Dr. Ferdinand Gross, at the German Hospital in Philadelphia, in 1888, and the other by Dr. W. B. Hopkins, at the Episcopal Hospital, in 1887. In both these cases dowels were used to fix the tarsus to the leg. In both they answered a good purpose, and gave rise to no subsequent trouble.

From these experiments we base the following deductions:

First. That where sterilized dead bone is placed, under favorable circumstances, in contact with living bone, it undergoes organization. When, on the other hand, it is acted upon by periosteum it is absorbed, and when placed in the medullary cavity, in not too large bulk, organization combined with absorption takes place.

Second. That these processes go on, perhaps, most actively between the fifth and the eighth week, and are not necessarily associated with any inflammatory action.

Third. That therefore, where these dowels are employed to pin together fragments of bone after fracture, to fix the extremities of bones after resections, or for any other mechanical purpose in surgery to which they are adapted, they may be relied upon to do their work for a period of one month or six weeks, and hence to give ample time, as a rule, for union to occur. After this, their presence being no longer required, they gradually lose their identity in the surrounding bone, and disappear.

MEDICAL PROGRESS.

THE BACILLUS OF DIPHTHERIA AND ITS PATHOGENIC VALUE.—From January 1 to May 1, 1889, twenty-nine persons, among them twenty young girls, were attacked by diphtheria in the little village of Horn, in the Netherlands; the mortality from the disease was 34 per cent.; its origin remained undiscovered. For two years before no case of diphtheria had been observed among the chickens or pigeons of this locality.

The authors, MESSRS. SPROUCK, WINTGENS and DOETS, were able to make bacteriological studies of the pseudo-membranes at various stages of the disease, which in 37 per cent. of the cases was accompanied by progressive paralysis which, except in one case, did not extend to the larynx.

In the seven cases which they studied they were able to obtain pure cultures of the bacillus described by Klebs in 1883, but they were not able to find the spores described by Babès.

Rats and mice proved refractory to subcutaneous inoculation made from these cultures, which, however, proved fatal to guinea pigs and rabbits in five or six days; after some days of entire freedom from symptoms, these animals displayed, among other morbid phenomena, a paralysis beginning in the hind legs, and then becoming general. If tracheotomy was first performed and the wounded mucous membrane was inoculated from the cultures, characteristic pseudo-membranes soon formed.

The bacilli found by these investigators in the false membranes were not discoverable in the lymphatic glands, the blood, or the viscera. The activity of the poisoning depends upon the presence of a chemical substance produced by the bacilli in the bouillon which is injected; this substance becomes more active in proportion to its age; the injection in the auricular vein of half a cubic centimetre of a culture sterilized by filtration, and twenty-eight days old, is sufficient to kill a rabbit in three days. The injections of filtered cultures produce true nephritis with albuminuria; the same filtered cultures lose their toxic power when boiled.—*La Sem. Méd.*

CURE OF MALIGNANT ANTHRAX.—The state of a patient in the later stages of malignant anthrax is desperate, and recovery very unusual. Dr. LANDE describes in the *Mémoires de la Société de Médecine de Bordeaux*, 1889, two cases where this condition was reached, yet the patients were saved by subcutaneous injections of carbolic acid. In the first case, a man aged 27, the upper lip was the seat of anthrax; in the second, a woman aged 65, the anthrax developed on the interscapular region. Both subjects were very ill, low delirium and other unfavorable symptoms being present. The injections were generally made into the subcutaneous tissue of the peripheral inflamed zone of the anthrax. The strongest solution used when the symptoms were severe consisted of 15 grams of neutral glycerine and an equal part of distilled water, in which 3 grams of crystals of carbolic acid were dissolved. The injections were made at five points around the anthrax, and represented a total dose of 50 centigrams of pure carbolic acid. This solution caused severe pain, but rapid improvement of the symptoms. This 10 per cent. solution was stronger than any previously employed for the same purpose by Boeckel, Raimbert and others. Nevertheless, it does not appear to cause sloughing of the tissues. A 5 per cent. solution is strong enough, in the opinion of Dr. Lande, except in very severe cases where the patient feels little pain. The injections must be repeated until the bad symptoms cease to recur, which may occur within forty-eight hours.

NITRITE OF AMYL is commended as the most rational and successful antidote to use where chloroform or cocaine seem to threaten life by their unfavorable action on the heart. A few drops of nitrite of amyl administered by inhalation will be one of the most probable means of restoring the heart's action.

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LONDON OFFICE, 57 AND 59 LUDGATE HILL.

SATURDAY, APRIL 5, 1890.

ELECTRICITY FOR FIBROIDS.

The present status of electricity in gynecology was very elaborately portrayed the evening of November 27, 1889, at the New York Academy of Medicine, at a meeting which will become *memorable for bringing together the opinions of* the majority of those in America who have a right to be considered authorities on this subject.

No subject in gynecology during the last few years has received more attention than the one of treatment of fibroid tumors of the uterus. Upon one side we have arrayed the surgeons with the oöphorectomy and the hysterectomy as the alternatives, while opposed to them are the equally stubborn conservatives with galvanism as a remedy *par excellence*, to be dosed accurately according to the prescription of DR. GEORGE APOSTOLI.

The importance of the question leads us to give from the electricity standpoint, the gist of the views of those taking part in the discussion at the late Academy meeting, with conclusions by the writer derived as a result of a perusal of the entire evening's proceedings.

On this subject DR. ALEXANDER J. C. SKENE, of Brooklyn, said: One class of men has condemned this treatment without mercy. Another class has obtained the most perfect results—and still another class has had an intermediate experience. They have been able to relieve their patients of most or all of their symptoms, and have diminished the size of the tumors or retarded their growth.

Dr. Skene continues: "I have accepted the testimony of this latter class of witnesses because it apparently contained the most truth, and also because it agreed with what little experience I have had in my own practice. . . . It has also been claimed that this agent is dangerous, but that has been fully met by the fact that all the benefit can be obtained without taking the risks that were at one time supposed to be unavoidable.

"Perhaps the most important question in the whole discussion is the relative merits of this and other methods of treatment. The claims of hysterectomy and the removal of the ovaries for fibromata have been urged with great vigor by those who are strongly addicted to surgery. There is, however, no evidence that this kind of surgery is safer or surer in its results than electricity."

DR. A. D. ROCKWELL, of New York, said: "That the galvanic current often completely dissipates fibroid tumors of the uterus few will, I believe, affirm. . . . As a rule, the reduction is comparatively slight unless suppuration is excited, which may be easily done. . . . We treat uterine fibroids not because they are unsightly, but because associated with them are a train of symptoms sometimes of the most distressing character. These symptoms can, it is believed, be relieved to a greater or less extent by electrolysis, and sometimes so completely relieved as to lead to the belief, so far as the patient is concerned, that the tumor has entirely disappeared . . . it is simply a symptomatic cure."

DR. AUGUSTIN H. GOELET, of New York, said: "It would seem unnecessary to add further testimony in favor of the treatment of uterine fibroids by electricity, since such authorities as SPENCER WELLS and THOMAS KEITH have abandoned hysterectomy and openly avow themselves in favor of APOSTOLI's method. As to fibroids, it does not always dissipate the tumor entirely, but the size is very materially lessened; its growth is arrested and the symptoms are relieved. The pain is promptly lessened, hæmorrhage is absolutely controlled, and, as the tumor becomes reduced in size, the pressure symptoms are likewise removed."

DR. E. L. H. MCGINNIS, of New York, said: "That it is slow in its effects I know, and we must not be disappointed if marked diminution in the size of the mass is not noticed at once. The great majority of cases show little change under a month of treatment, which should be applied three times weekly. But I have found one (very rarely, two) thorough applications quite sufficient to control the most obstinate hæmorrhage, provided a sufficiently strong current is used, and, what is *most* important, that every part of the endometrium be brought in contact with the electrode."

DR. A. H. BUCKMASTER, of Brooklyn, recited some important experiments which have a direct clinical bearing on the subject, among others is the following: "The heart of an anæthetized dog was exposed and a current of forty milliampéres made to traverse a portion of the ventricle. A piece of the ventricle in the direct line of the current was excised and another some little distance from the direct influence of the current. When examined under the microscope the piece from the direct line of the current showed that the striæ had become markedly granular, while the piece outside of the direct line of the current preserved the muscle cells unaltered. This granular appearance of the striæ would indicate degeneration of the muscle bundles. . . . This is the first evidence of absolute molecular disintegration of living cells by the interpolar action of the galvanic current, where such process is confined to the cells."

DR. PAUL F. MUNDÉ, New York, in speaking of Aportoli's method said, that while he believed it efficient for the removal of pain and the checking of hæmorrhage, and admitted that the patients felt better for its use, not a single tumor which had come under his notice had been much reduced in size. He considered the galvano-puncture through the vagina the ideal treatment. The four cases in which he had employed it had been absolutely cured—that is the tumors disappeared entirely, not a vestige being left.

DR. FRANKLIN H. MARTIN, of Chicago, said: "My experience in the treatment of fibroid growth of the uterus by electricity amounts, in round numbers to two hundred cases. In that number of cases, not more than five failed to continue the treatment until results could be estimated. Of those who continued treatment and made a fair test of its value, up to the present time but three have failed to obtain relief. . . . I am fortunate, considering the great number and variety of cases treated, to be able to record no deaths; the results on the whole have been extremely gratifying. About 84 per cent. are symptomatically cured, with an additional 4 per cent of actual cures."

Among the names of those giving testimonies in behalf of electricity at this meeting will be noticed not only those with reputations as electricians, but also those having reputations among the first of our American gynecologists. The general tone of the discussion was calm, and particularly free from the exuberant and unsafe positivism of the enthusiastic hobbyist. From a perusal of its records we formulate the following conclusions:

1. Electricity will relieve the pain due to pressure and sympathetic disturbances in the majority of fibroid tumors treated by that agent, in from one to six applications.

2. Hæmorrhage due to fibroids can be relieved by the positive galvano-caustique applications of electricity in all cases in which a sufficiently concentrated dose can be applied to the greater portion of the endometrium.

3. A large percentage of tumors of enormous size can be checked in growth and often reduced in size by an intelligent and persistent application of this agent, while tumors of medium and smaller size can be markedly reduced, and in a few instances be made to totally disappear.

4. The majority of patients, while under this form of treatment, improve rapidly in general health from the characteristic tonic effect exerted upon the whole system.

5. According to the only statistics given, 84 per cent. of patients submitted to the treatment are symptomatically relieved, 4 per cent. absolutely cured, while 12 per cent. are not benefited, or failed to make a fair test of the treatment.

6. The treatment is not by any means painless in a large number of cases, although an anæsthetic is seldom resorted to. A well tried system of concentration, however, has been adopted, by which, as a rule, all the benefits of the agent can be obtained without transcending the toleration of the patient.

THE NEW YORK OPHTHALMOLOGICAL SOCIETY has elected the following officers for 1890: Dr. Samuel B. St. John, of Hartford, President; Dr. H. S. Oppenheimer, Vice-President; and Dr. John E. Weeks, Secretary and Treasurer.

THE ELIMINATION OF MORPHINE INJECTED HYPODERMICALLY THROUGH THE STOMACH.

At the meeting of the Society of East German Alienists at Jena, June 12, 1889, DR. HITZIG, of Halle, reported some investigations which his assistant, DR. ALT, had been making upon this subject. His attention was first called to it by observing that a dog that ate the matter vomited by another dog, to which a hypodermic injection of morphine had been administered previously, also vomited in a short time. A chemical test of the matter vomited by the first dog revealed the presence of morphine. Experiments by washing out the stomachs of dogs shortly after the hypodermic administration of the drug showed that its presence could be demonstrated in the stomach in 2¼ minutes after the injection, and that it continued to be eliminated for about an hour. If the stomach was washed out, vomiting did not take place, showing that it was a reflex phenomenon due to the presence of the drug in the stomach, and not a consequence of its direct action on the central nervous system. The other symptoms of poisoning by morphine could also be mitigated by this means, and the lives of dogs thus preserved to which doses of morphine had been given, which were otherwise inevitably fatal. In two cases the animals were kept alive and recovered promptly, after receiving nearly 50 per cent. more than the usually fatal dose. Thus, strange as it might seem, washing out the stomach after poisoning by hypodermic injection proved a life-saving operation. A third of the morphine administered could be recovered in this way within twenty minutes after the injection. Analogous results were obtained by experiments on men. The practical bearing of these facts in cases of poisoning by hypodermic injection of morphine is obvious, and it would seem possible that in case of an overdose taken by the mouth, excretion by the stomach might take place after its contents had been evacuated.

THE SO-CALLED "PECULIAR PEOPLE" AND CONTAGIOUS DISEASE.

There exists in England a small sect known as the "Peculiar People" whose members resemble certain faith-healing zealots in our own country in the respect that they will not use medicines for the cure of disease and will not employ physicians. In two parishes of Essex, Cressing and White Notley, there has recently been an outbreak of small-pox attended by circumstances, which in the opinion of *The Lancet* tended dangerously to the kindling of a general epidemic. A member of these Peculiar People contracted the disease and neglected every recognized medical and sanitary precaution. The patient had his friends calling upon him with entire freedom, and four or more of these visitors were taken down with the disease also. It was then that the health officials of the locality became aware of the impending spread of the trouble and went to work energetically to check it, and fortunately with success. The position of these officials was an embarrassing one at the outset since they had no isolation hospital whereto they might send any refractory patient who would, for conscience sake, put a whole countryside in jeopardy. It is proposed to have such a hospital provided before the like can occur again. *The Lancet*, however, offers its suggestion that the authorities plan to build a structure which will meet a wider range of exigencies than that through which they have just passed; the writer in that journal holds the opinion that the small contagious-disease hospitals, thus procured, on the spur of some sudden emergency, are seldom made ready in time for the epidemic responsible for its procurement, and have seldom been found afterwards to properly serve the later requirements of the place. That plan which has served more usefully than any other, according to the writer of the comments in the journal, has been the rapid fitting out of a small house-hospital which is hired for the occasion; this is preëminently the fact regarding outbreaks of small-pox, where so much can fortunately be accomplished by vaccination.

EDITORIAL NOTES.

HOME.

MICHIGAN STATE MEDICAL SOCIETY.—The twenty-fifth annual meeting of this prominent organization will be held in the city of Grand Rapids on the 19th and 20th of June next, the date having been changed to avoid conflict with that of the American Medical Association. It is one of the representative organizations in this country, and the adjacent States will do well to be officially represented by delegates in that assemblage. The President's Address will be delivered by Dr. George E. Frothingham, of Detroit. Subject—"The Need of Extensive Organization and pursuit of a Fixed Policy as a Means of promoting our Professional Interests."

Tennessee State Medical Society.—The fifty-seventh annual session of the Tennessee State Medical Society will be held at Memphis, April 8, 9, and 10, at the Gayoso Hotel.

The North Philadelphia Hospital has been incorporated. It will probably be enabled to begin operations within the current month, with six beds at the outset. A large building of fifteen rooms, on North Broad street, will be immediately prepared for occupancy.

Dr. S. Wier Mitchell, of Philadelphia, is the author of a dramatic poem, entitled "The Masque," which was publicly rendered and favorably received, on March 8, at a theatre in Philadelphia.

The New York Hospital is about to add a solarium to its other appliances for the benefit of its convalescents.

The New York Eye and Ear Infirmary laid the cornerstone of its new building, on Second avenue, on March 15, in the presence of a notable body of clergy and citizens of public spirit. Ex-Mayor Hewitt was called to the chair, in the absence of Mr. Chauncey M. Depew, who was reported sick with influenza. This institution is seventy years old and has an endowment fund of a quarter-million of dollars. The new building will cost $100,000, towards which $70,000 have been subscribed and $30,000 must be looked for from private sources. The staff consists of forty-six surgeons, who minister to the needs of nearly 20,000 patients annually.

Mississippi State Medical Association.—The next annual session of the Mississippi State Medical Association will be held in Jackson on April 16.

Florida State Medical Association.—At a meeting of the Executive Committee of the Florida Medical Association, held in Jacksonville, February 20, it was decided to change the place of the annual meeting from Key West to Ocala. This was deemed best after consultation with the President of the State Board of Health, lest quarantine regulations might interfere with the meeting at Key West. The meeting will be held in Ocala on April 8, the session being opened in the Opera House at 3 P. M.

Lectures on Hygiene and Public Health.—By invitation of the trustees of the Mott Memorial Library, Dr. Alfred L. Carroll is to deliver to physicians and students a free course of fifteen lectures on hygiene and public health, during April and May, at 4 o'clock P. M. on Mondays, Wednesdays and Fridays, at the Mott Hall, 64 Madison avenue, New York City.

Western Pennsylvania Medical College.—The fourth annual commencement exercises of the Western Pennsylvania Medical College were held in the Grand Opera House, Pittsburg, on March 27. The degree of M.D. was conferred on twenty-nine graduates, being about 25 per cent. of the class in attendance during the past term. In the evening of the same day the Alumni Association of the college, now numbering 120, was entertained by the faculty at a banquet provided at the Seventh Avenue Hotel.

FOREIGN.

The Extension of Epidemic Influenza East and West.—The advance of epidemic influenza into Persia has been reported as far eastward as Teheran, at which place as many as seventy deaths in a day have been credited to that disease. Several members of the Shah's family have been among the sick.

The epidemic has extended into Mexico, and has been raging with great virulence in the State of Hidalgo.

Dr. Hans Meyer, of Berlin, is one of a party of two Germans, who have made the ascent of the marvelous peak of Kilimanjaro in East Africa. The report is that they were the first to have ascended to the very summit, seventeen days being the time devoted to the ascent and an exploration of three of the highest points. The aneroid indicated 19,690 feet elevation at the summit.

The Oldest Freemason in the World is said to be Dr. William Salmon, of England, whose age is over one hundred years.

The Influenza has recently appeared in the Bermuda Islands.

TOPICS OF THE WEEK.

REPORT ON SANITARY REGULATIONS OF THE PAN-AMERICAN CONGRESS.

The Committee on Sanitary Regulations of the Pan-American Congress has made a unanimous report in which it condemns absolute isolation in preventing the spread of epidemics, and recommends in its stead the disinfection of all articles from infected localities before they are permitted to be imported into healthy places. The following propositions have been adopted by the Congress, on recommendation of the committee:

"That, taking the existing state of the relations between the nations of America, it is as practicable as it is advisable, for the promotion of these relations, to establish perfect accord with respect to sanitary regulations.

"That the greater part of the ports of South America on the Atlantic are guided and governed by the decisions of the International Sanitary Convention of Rio Janeiro of 1887.

"That although it does not appear that the plans of the Sanitary Congress of Lima, of 1889, have passed into the category of international compacts, it is to be hoped that they will be accepted by the governments that participated in the said Congress, because those plans were discussed and approved by medical men of acknowledged ability.

"That the Sanitary Convention of Rio Janeiro of 1887, and the draft of the Congress of Lima of 1889, agree in their essential provisions to such an extent that it may be said they constitute one set of rules and regulations.

"That if these were duly observed in all America they would prevent under any circumstances the conflict which usually arises between the obligation to care for the public health and the principle of freedom of communication between countries.

"That the nations of Central and North America were not represented either in the Sanitary Convention of Rio Janeiro or the Congress of Lima, but that they might easily accept and apply to their respective ports on both oceans the sanitary regulations before cited."—*Sanitary News.*

CHEMISTRY AND ITS RELATION TO MEDICINE.

Among the remarkable developments of medical science in recent years is the important position assigned to chemical discoveries and theories, and their relation to practical medicine. For many years the aphorism of Boerhaave, "*Chymia egregia ancilla medicinæ, non alia pejor domina,*" defined the position chemistry ought to hold in its relationship towards scientific medicine—an aphorism which in more recent times has received point and force from the ridicule cast upon chemical theories by the teaching of Graves and Trousseau. Now, however, chemistry promises to play once more a dominant part in the medical theories and speculations of the day, and, under more competent guidance than was possible when the aphorism was originally launched against the iatro-chemists of the seventeenth century, will, it is to be hoped, avoid the errors of the past, and solve many important problems urgently requiring elucidation. As evidence of this reaction in favor of chemical speculation we need only point to the chemical investigations being carried on at the present time in physiology, pathology, pharmacology, and in clinical medicine, and to the large sums expended in almost every school on increased laboratory accommodation, to say nothing of the new laboratories constructed on the Embankment at great expense by the Conjoint Board of the Royal Colleges of Physicians and Surgeons, and which will shortly be opened for original research. With this resumption of activity in the domain of medical science, the teaching of elementary chemistry assumes an importance not hitherto accorded it. For a sound and efficient training in the principles of both physics and chemistry will be an essential equipment of the student of the future if he is to understand the facts that chemical research has to put before him throughout his professional career. These remarks have seemed necessary, since there is, we believe, a disposition to relegate the teaching of elementary chemistry to a more inferior position than it even now holds in the medical curriculum. Such a step would be disastrous, and would be utterly retrograde. For if, during the many years that chemistry was but little regarded as an auxiliary to medicine, it formed one of the essential features of our examinations, now that a more extended knowledge of the subject is required for the new departure chemistry has taken as applied to medicine, it would be absurd to reduce the elementary teaching to what a sixth form boy could pick up during his last half-year at school.—*The Lancet.*

THE MEDICAL LIBRARY OF THE UNIVERSITY OF PENNSYLVANIA.

The medical library of the University of Pennsylvania is said to be growing very rapidly, having received numerous gifts of books and money. The two principal donors are Dr. Alfred Stillé, who presented a collection of books, numbering 3,000 bound volumes and 5,000 unbound volumes and pamphlets, and Dr. William Pepper, who more recently gave the greater portion of his own medical library; $15,000 in money has also been received, one-half of which has been expended in the erection of the new library building, while the other half is to be retained as the nucleus of an endowment fund for the purchase of books and medical journals.—*Medical Record.*

M PASTEUR AND THE RABBIT PEST IN AUSTRALIA.

In respect to a statement alleging that the Australian Government had refused to allow M. Pasteur the reward of £20,000 offered to the person who should suggest the best plan for the destruction of the rabbits that infest that colony, M. Pasteur is reported to have said that this was not so, for the simple reason that he had never sought it, and that, owing to circumstances over which he had no control, he could not claim such a reward. He had sent M. Loir, his nephew, and another of his assistants to Australia in order to try the experiments which he had made in his laboratory on a more extended scale. The assistants returned to France after a few months, discouraged. According to M. Pasteur, they were not allowed by the Commission appointed by the Australian Government to make any important experiments. This Commission permitted the assistants to inoculate a few rabbits, and the experiments were successful enough to warrant a further extension of the authorization; but all sorts of delays and adjournments were caused, until the assistants abandoned all hope of being able to carry out the purpose for which they had undertaken the voyage to Australia.

A BILL TO REGULATE MEDICAL PRACTICE IN RHODE ISLAND.

A Bill with the above title is now before the Legislature of that State. The first section of the act provides that only registered physicians shall be allowed to practise medicine in this State, and section 2 is as follows: "Every person in order to be a registered physician within the meaning of this act shall be either a graduate in medicine or a practising physician. Graduates in medicine shall be such as have obtained a diploma from a regularly incorporated school or college of medicine, and shall have presented to the State Board of Medicine satisfactory evidence of their qualifications. A practising physician shall be deemed to be a person, who for the ——— years next preceding the passage of this act has continuously practised medicine in this State, and who shall have presented to the State Board of Medicine satisfactory evidence of his qualifications, and any other person who shall have presented to the State Board of Medicine satisfactory evidence of his qualifications to practise medicine."

A PARADISE FOR STRONG-MINDED WOMEN.

Ladies ambitious of academical distinction should betake themselves to Belgium, where Napoleon's maxim, *La carrière ouverte aux talens*, without invidious distinction of sex, has now received the sanction of the Legislature. On January 30 the Chamber of Representatives, acting in concert with the Ministry, passed an enactment that henceforth all university lectures and courses of instruction, together with all academical degrees, shall be open to women. Moreover, whereas they have hitherto only been allowed to practise certain branches of the healing art, both medicine and pharmacy are now thrown open to them without restriction. It is not clear why legislators of such advanced views should have expressly protected the legal profession from the intrusion of forensic-minded ladies, but this inconsistency may not be altogether unconnected with the fact that the majority of the members of the Chamber of Representatives are lawyers. Nothing is said as to the Church, but if women may become Doctors—that is, teachers—of Divinity, it would be unfair to exclude them from the pulpit.

RECENT SAVING OF LIFE IN MICHIGAN.

In a carefully prepared paper, read about the Sanitary Convention at Vicksburg, the proceedings of which are just published, Dr. Baker gave official statistics and evidence which he summarized as follows:

"The record of the great saving of human life and health in Michigan in recent years is one to which, it seems to me, the State and local boards of health in Michigan can justly 'point with pride.' It is a record of the saving of over one hundred lives per year from small-pox, four hundred lives per year saved from death by scarlet fever, and nearly six hundred lives per year saved from death by diphtheria—an aggregate of eleven hundred lives per year, or three lives per day, saved from these three diseases! This is a record which we ask to have examined, and which we are willing to have compared with that of the man who 'made two blades of grass grow where only one grew before.'"—*American Practitioner and News.*

STATISTICS OF BREATHING.

In each respiration an adult inhales one pint of air.

A man respires sixteen to twenty times a minute, or twenty thousand times a day; a child twenty-five to thirty-five times a minute.

While standing, the adult respiration is twenty-two; while lying, thirteen.

The superficial surface of the lungs, *i. e.*, of their alveolar space, is two hundred square yards.

The amount of air inspired in twenty-four hours is ten thousand litres (about ten thousand quarts).

The amount of oxygen absorbed in twenty-four hours is five hundred litres (744 grams); and the amount of carbonic acid gas expired in the same time, four hundred litres (911.5 grams).

Two-thirds of the oxygen absorbed in twenty-four hours is absorbed during the night hours from 6 P. M. to 6 A. M.

Three-fifths of the total carbonic acid is thrown off in the day time.

The pulmonary surface gives off one hundred and fifty grams of water daily in the state of vapor.

An adult must have at least three hundred and sixty litres of air an hour.

The heart sends through the lungs eight hundred litres of blood hourly, and twenty thousand litres, or five thousand gallons, daily. The duration of inspiration is five-twelfths, of expiration seven-twelfths, of the whole respiratory act; but during sleep inspiration occupies ten-twelfths of the respiratory period.—*Annals of Hygiene.*

THE INSCRIPTION ON THE CORNER-STONE OF THE PENNSYLVANIA HOSPITAL.

The corner-stone of the Pennsylvania Hospital was recently uncovered, and the inscription was found well preserved in clear and sharply-cut letters. It read as follows:

IN THE YEAR OF CHRIST
MDCCLV
GEORGE THE SECOND HAPPILY REIGNING
(FOR HE SOUGHT THE HAPPINESS OF HIS PEOPLE)
PHILADELPHIA FLOURISHING
THIS BUILDING
BY THE BOUNTY OF THE GOVERNMENT
AND OF MANY PRIVATE PEOPLE
WAS PIOUSLY FOUNDED
FOR THE RELIEF OF THE SICK AND MISERABLE
MAY THE GOD OF MERCY
BLESS THE UNDERTAKING

PRACTICAL NOTES.

RESORCIN IN WHOOPING COUGH.

This remedy seems to be gaining ground in the treatment of pertussis. In a late number of the London *Lancet* it is stated that Dr. Justus Andeer, who had previously written in recommendation of the employment of resorcin in whooping cough, has recently published some fresh cases illustrating, as he believes, the advantage of this method of treatment. One of the patients was his own child, a little girl of 7 years of age, who during an epidemic of measles and whooping cough was attacked by the catarrhal form of the latter affection and suffered severely for a week, notwithstanding a change of climate. He then prescribed an ounce of a 2 per cent. solution of resorcin four times a day, part of which solution the child was to gargle, and part of which she was to take. This very soon began to show signs of affecting the course of the disease, for on the second day the fits of coughing very perceptibly diminished, and in eight or ten days the child was quite free from coughing. Five other children, who had been unsuccessfully treated for some time, immediately began to improve under the resorcin treatment. In the case of a baby of 6 months old a sweetened solution of the strength of ½ per cent. was given by means of a feeding-bottle and answered admirably.—*Cincinnati Med. Journ.*

CHLOROFORM WATER IN CROUP.

Dr. H. B. Bashere has lately obtained excellent results from chloroform water in the treatment of false croup, and regards it as superior to chloral in this affection, in that it is not so dangerous and is eliminated in part by the lungs. Of course its action is local, and its value, probably, due to the sedative effect upon the sensory filaments of the superior laryngeal nerve. He makes use of a solution consisting of 5 to 10 minims of chloroform to an ounce of water, to which is added a little glycerine to aid the solubility of the chloroform. A teaspoonful of this is given every half hour during an attack, and if there is any dyspnœa the following day, a teaspoonful is given every two hours, increased in frequency to every hour during the evening. This method of treatment is especially applicable to those cases in which the dyspnœa and cough continue during the day.—*Medical Record.*

TURPENTINE IN POST-PARTUM HÆMORRHAGE.

"For a number of years," writes a correspondent, "I have used spirits of turpentine in post-partum hæmorrhage, and in every case with the best results. When the ordinary means, that is, friction over the uterus, irritation of the uterus by introduction of the fingers, cold hypodermic injection of ergotine, etc., failed, by saturating a piece of lint with the turpentine, and introducing it with my hand into the uterus and holding it against the walls, rapid contraction took place, and all hæmorrhage instantly ceased. In one or two cases, when the patient was almost pulseless, it seemed to act as a stimulant. On no occasion did its action fail, nor did it cause the slightest inconvenience, except in one, when the side of the patient's thigh was slightly blistered by some that came in contact with it, but it gave very little annoyance. I consider it to be much quicker and safer in its action than any other remedy; it does not cause any injurious result, and besides it is much more easily applied. In country practice, getting hot water or using injections often entails loss of valuable time.—*Lancet.*

A NEW TEST FOR ALBUMIN IN URINE.

Dr. D. Meredith Reese reports in the February issue of the Johns Hopkins Hospital Bulletin on a test series of over eighty cases in the course of an investigation as to the applicability of trichloracetic acid as a test for albumen in the urine. This test is a new one, the first prominent mention that was made of it in English literature being that made in the *British Medical Journal* for November 16, 1889. The reagent may be used either as a solid or as a liquid. According to Dr. Reese, the tests by this substance for albumen in urine were most delicate, the reaction is prompt, the manipulation is not difficult, and no discoloration or colored zone is produced in the specimens.

SALICYLATE OF SODA PER RECTUM.

Dr. Stein, of Saaz, mentions in a Prague medical journal that, having a case of rheumatic fever of a severe and very obstinate nature in a lady with a very sensitive stomach, which refused to tolerate medication of any kind when administered by the mouth, he was able to treat the case satisfactorily by enemata of salicylate of soda. He gave three enemata daily, each containing from 30 to 45 grains of the salicylate. The quantity of liquid used for each was about 8 ounces.

CARBUNCLE TREATMENT.

Drs. Arnozan, Lande and Maurange inject into the cellular tissue of the inflamed peripheric zone 5 grams of a solution composed as follows: Glycerine and distilled water, of each 15 grams; crystallized carbolic acid, 3 grams. The injections were made at five different points around the inflamed region, and represent a dose of 50 centigrams of carbolic acid. Amelioration of the local and general state was prompt, and in twenty-four hours probability of a cure was manifest.

SOCIETY PROCEEDINGS.

Philadelphia County Medical Society.

Stated Meeting, January 22, 1890.

The President, W. W. Keen, M.D., in the Chair.

Dr. H. A. Hare read a paper entitled

DEMONSTRATION OF THE EFFECT OF THE ENTRANCE OF AIR INTO THE VEINS.

Some months ago I published an account of experiments on seventy dogs, in which I found that the entrance of air into the veins of living animals was not so lethal as is generally believed. It has been taught that minute globules of air entering the veins will produce fatal results, or, at least, most serious symptoms. The way in which I discovered the fallacy of this was by making injections of solutions of drugs. I found that when a small quantity of air was introduced accidentally, no evil effects resulted. On looking up the literature of the subject I found that the mass of evidence was really against the common belief. There are quite a number of cases on record where patients have died suddenly during operation, and death was attributed to the entrance of air.

In order to be brief, I shall read an abstract from my paper:

"One of the most thorough studies of the subject so far published is undoubtedly that of Wattmann, from whom most of the following information is derived, unless otherwise stated. The first experiments of this kind are attributed to Wepfer, who is said to have killed an ox of stupendous size by blowing air with his mouth into its jugular vein; while Redi, in a letter to Steno, written over two hundred years ago, stated that he had killed in a similar manner two dogs, a horse, a sheep, and two foxes. Similar studies have also been made by Heyde and Brunner. Ruysch, Valsalva, Morgagni, and others, have at autopsies recorded the appearance of quantities of gaseous fluid in the vascular system, which they believed to be air. Very much later, Bichat made startling announcements as to the small amount of air required to cause death when so introduced, but Nysten, a few years later, showed the fallacies in Bichat's assertions.

"In 1818, a patient of Beauchene, at the Hôpital Saint Antoine, while he was extirpating a tumor of the right shoulder and lateral and lower part of the neck, died very suddenly, 'under circumstances which made him believe that this was occasioned by entrance of air into the vascular system through an opening in a vein.' Further cases have since been reported by writers in this country, and abroad by Amussat, Mott, and others.

"The paper of Amussat is one of the most exhaustive of its kind, but its conclusions were vehemently attacked by men no less noted than Velpeau, Gerdy, Blandin and Malle, all of whom asserted that the symptoms detailed were not to be thought due to the entrance of air, but to other extraneous causes.

"In the experiments of nearly all the early investigators, the air was introduced by blowing with the mouth or a syringe, but Amussat carried out a series of studies in which he opened the jugular vein and allowed any air to enter that could do so.

"The experiments of Nysten proved that only large amounts of air produce fatal results, the quantity varying from 40 to 120 cubic centimetres, according to the size of the dog, and he also found that larger amounts must be used to kill the ox or horse.

"Magendie states that he has thrown, with all the force and celerity of which he was capable, forty or fifty pints of air into the veins of a very old horse without his dying immediately, and Cormack blew the contents of his chest, twice filled, into the jugular vein of a horse before the animal exhibited any signs of uneasiness. Barthelemy has also found that in six horses, weakened greatly by the withdrawal of blood, as much as from four to six litres of air must be introduced intravenously to cause death, and estimates, in consequence, that a man weighing 136 pounds would be killed only by two-thirds of a litre. Even the experiments of Amussat force him to the conclusion that a considerable quantity of air must be used to cause death. Ore finds 80 ccm. necessary to cause death in the dog.

"The conclusions to be reached, therefore, from all experimental researches is that enormous amounts of air must enter a vein to cause death, and that no such quantity can possibly find its way into a vein which has been injured with the knife of the surgeon. These are the facts against the prevailing idea; let us see what the facts are for it. The answer is that there are none. While we have a large number of cases reported of sudden death under operations where veins were opened, in the majority of them the cause of death has been guessed at, and not proved. The only case which approaches in any way toward authenticity is that of Mott, who saw a serious but not fatal result induced by the entrance of air into the facial vein, and even this is not a proved case. The case of Barlow is equally doubtful as to the real cause of death.

"There are a number of cases on record where death has resulted, according to the physician in charge, from the entrance of air into the uterine sinuses.

"Supposing that ordinary atmospheric air is really capable of acting in the manner generally thought, the question arises as to the method of its influence. Erichsen believes it to be due to the frothy state of the blood, which prevents the due transfer of the circulating fluids through the pulmonary tissue, and Bell believed death to be due to the transference of air to the base of the brain.

"Cormack has thought death to be due to gaseous distention of the heart, and Moore thought it to be due to the entrance of air into the cardiac cavities. Other observers have found air in the right heart, and concluded that in this way the blood is prevented from eventually getting to the lungs and general system. Again, it has been thought that the air prevents the closure of the valves of the heart, or that the bubbles of air entering the smaller capillaries acted as emboli.

"Taking up the last theory first, we find, in the first place, there is no evidence whatever to prove that air may not be driven anywhere that blood can flow; and it is, to say the least, curious that any one should suppose that a bubble of air, which is compressible in itself, and capable of assuming any form under pressure, should form an impassable barrier against which a blood-pressure of 200 millimetres could press in vain—a pressure made up of blood, a virtually incompressible body. This seems to be sufficient evidence of the falsity of any such theory.

"Again, why should the air in the cavities of the heart prevent the valves from closing? We are accustomed to test the tightness of rubber bags by inflating them with air or water, and if the valves can close on a current of blood, why can they not do so upon a current of blood and air mixed? If the air was as heavy as mercury, and as difficult of propulsion, such a theory might stand.

"Even the theories of the causes of the supposed deaths in man do not, therefore, stand before a rigid examination, which is hardly to be wondered at when we have proved that the quantity of air entering the veins under such circumstances cannot be of any great quantity.

"According to Ashhurst and Agnew, the veins of the neck are the ones most liable to be entered by air, and it is said by Agnew that the frequency of this accident is due to the fact that the venous trunks in that region are in many places attached to the deep fascia, which prevents collapse of their walls when wounded; for this reason this part of the body is spoken of as the 'dangerous region,' according to Ashhurst.

"The explanation of the method by which the air finds entrance to the veins is supposed to be a process of suction produced by the expansile movements of the chest in inspiration. Practically, most surgeons will agree with me in stating that generally the blood pressure in the jugular vein is sufficient to cause so great a hæmorrhage as to prevent any air entering the vein; and I have proved the fallacy of the suction theory any number of times by leaving an open canula in the jugular vein, the vessel being tied above to prevent hæmorrhage."

Two dogs were then taken, and into the external jugular vein of one was injected twenty cubic centimetres of air, and into the jugular vein of the other forty cubic centimetres. The animals were subsequently released, and showed no apparent bad effects.

The President: The Chairman of the Board of Directors wrote to a number of prominent surgeons asking them to take part in this discussion, but I think, without exception, they replied that they had had no experience with this accident. It has never happened to me to wound a large vein, and have any symptoms which would lead me to think that air had entered a vein. There are, however, a number of statements as to this matter which we must take as the statements of careful observers and operators. We must also bear in mind the important paper of Senn, of Milwaukee, presented at the meeting of the American Surgical Association, in 1885. His conclusions are somewhat at variance with the experiments of Dr. Hare.

I have always supposed, and taught in my surgical lectures, that the entrance of air into veins was a danger, and have explained it in this way: The air entering the vein and passing to the small vessels of the lungs, is churned into a froth, the little bubbles thus formed constitute aerial emboli, which have a considerable amount of adhesion to the blood-vessel walls. We can understand this by an ordinary observation on a summer's day. If we have a glass of cool water, we know that small bubbles of air accumulate at the sides of the glass in consequence of the heat, and these are often dislodged with some difficulty. I can, therefore, easily conceive how, in a blood-vessel of very small calibre, the bubble of air would form an aerial embolus which, adhering by its entire periphery, would not be displaced even by the two hundred millimetres of blood pressure. Several surgeons have had cases in which, as a fact, sudden death has occurred with a lapping or gurgling sound, apparently from the entrance of air, the patient rapidly becoming asphyxiated, and at the post-mortem there has been found frothy blood in the heart and pulmonary capillaries. It is hard to maintain that the entrance of air is not dangerous in the face of such observed facts. On the other hand, one is staggered when he sees twenty and forty cubic centimetres of air injected directly into the veins of a small dog, and he cannot conceive how this will have a different effect in different animals, except in so far as the blood pressure is different.

Dr. A. J. Downes: From a few experiments on animals, for a different purpose, however, I have thought that there may be an apparent fallacy in these experiments. The danger from the entrance of air is an immediate one. When a vein is wounded the on-flow of the blood-current, which is considerable in the jugulars, naturally carries air into the veins under different conditions than exist in the experiment. Here, owing to technical manipulations, the venous flow is at least passive. Then, too, nerve influence may be a potent factor. The suddenness of its entrance, not the quantity, of air may have some effect upon the heart *ganglia*.

DOMESTIC CORRESPONDENCE.

Some Ill Effects of Disinfection with Sulphur.

To the Editor:—In your editorial in THE JOURNAL of Feb. 8, 1890, entitled, "Correct Official Instructions as to Disinfection with Sulphur," you say: "there may possibly result from it some bleaching of colored articles . . . . . when the sulphur dioxide comes in contact with wetted goods and there may be some minor damage beside."

This statement is eminently correct, and while such damage is not considered as weighing against the disinfection, where necessary; it is well to know that sulphur burnt in the presence of moisture may have the following undesirable effects:

1. It injures the colors of many woolen goods, being especially hard on greens and bright reds—a red flannel shirt, for instance, always comes out yellow, sometimes the color is not affected; the dark blues are generally absolutely uninjured, but not rarely turned a reddish brown. The same color of course may be from very different dyes and thus give different results. The quality of the dye, as judged by the price of the fabric, is no criterion of how it will behave under sulphur. Clothes that have been worn are frequently discolored, when new ones, of the same nature, from the slop chest are but little or not at all affected, doubtless protected by the oil used in weaving, which has not worn off.

I have seen but few colored goods, other than woolens, submitted to SO_2, in some instances they were bleached.

2. Articles containing starch, if not washed soon, are corroded—especially true of handkerchiefs, etc., and the cloth covers of books.

3. Blankets and hair pillows—which are utterly unsuited to the process—will retain for about a week a smell so disagreeable, in no sense like that of burning sulphur, that they are unpleasant to use. This persists in spite of airing and exposure to the sun, but is immediately removed by washing, or heating in an oven.

4. Flour in ordinary barrels will not "rise" with yeast for some days after exposure, and this effect penetrates for a considerable distance in the barrel.

Tea is ruined permanently, as is ground coffee. The same charge is made of its effect on smoking tobacco, but not using it I can only give the testimony of others.

It is hardly worth while to mention the tarnishing of metal-work—all save gold—or the consequent injury to watches, clocks, etc. Oil prevents this almost entirely. Apples and other fruit become scalded and worthless.

The gas in the above observations was obtained by burning as much sulphur as possible in the presence of abundant moisture in a compartment more or less close, kept closed for from twenty-four to forty-eight and occasionally seventy-two hours. In general it was not possible to enter the compartment for some time—thirty minutes to an hour—after opening up. Where the apartment is more open less injury would be done and also less efficient disinfection.

I can say that these observations are sufficiently numerous to be reliable, and are what I have personally seen during actual disinfection.

If this note will enable any health officer to avoid a loss which he would otherwise cause, and presumably pay for, the purpose for which it is written will be fulfilled. Very truly,

H. R. CARTER, M.D.,
(U. S. Marine-Hospital Service.)

North Chandeleur Island, March 10, 1890.

NECROLOGY.

H. M. McKay, M.D.

Dr. H. M. McKay, of Woodstock, Ont., has died. He was formerly a President of the Medical Association of his Province, and at the time of his decease a member of the Ontario Board of Health. He was a representative man in the best sense of the word, and much sought after by reason of his natural powers and his excellent experience and judgment.

George T. Trezevant, M.D.

Dr. George T. Trezevant died at Abilene, Tex., on February 7, 1890, after an illness of ten days resulting from an attack of la grippe. Dr. Trezevant was born in 1846 in Hines Co., Miss., whence he removed in 1852 to Madison Parish, La. At the age of 16 he entered the Confederate Army, in which he served until the close of the war, when he began the study of medicine, graduating in New Orleans in 1869. Engaging at once in his profession at his home, he soon enjoyed a large and lucrative practice, but in 1875, being forced by ill health to leave his home, he decided to resume practice in Abilene, Tex., where he soon became known as a popular and successful practitioner. As a physician he stood among the first; as a man he was bold and fearless in the discharge of his duty. He was indeed the true type of a Southern gentleman. While living in Louisiana he filled several offices of trust with honor to himself and to his parish. He was a member of the American Medical Association. An aged mother, a wife, four children and a brother, together with hosts of friends, mourn his loss.

BOOK REVIEWS.

Through the Ivory Gate. Studies in Psychology and History.—By William W. Ireland, M.D., Edinb.; formerly of H. M. Indian Army; Corres. Memb. of the Psychiatric Soc., St. Petersburg, and of the N. Y. Medico-Legal Soc.; author of "The Blot Upon the Brain." Pp. vii, 311. New York: G. P. Putnam's Sons. Edinburgh: Bell & Bradfute. 1889.

The title of this work has reference to the classical allusions of Homer and Virgil to spectres which walked through the ivory gate. It contains extremely interesting accounts of the lives of several famous and infamous persons, all of whom the author believes to have been the victims of "spectres." The individuals under consideration are Emanuel Swedenborg, William Blake, Louis II of Bavaria, Chas. J. Guiteau, Louis Riel, Gabriel Malagrida, and Thebaw, King of Burmah. The author's graphic descriptions of the characters and lives of these insane persons, as he believes them to have been, furnish most interesting and valuable descriptions of some phases of insanity.

Gynecological Electro-Therapeutics. By Horatio R. Bigelow, M.D.; Permanent Member of the American Medical Association; Fellow of the British Gynecological Society; Member of the Anthropological and Biological Societies of Washington, D. C. With an introduction by Dr. Georges Apostoli. With illustrations. Philadelphia: J. B. Lippincott. 1889.

This book is an attempt to record what the author has seen and what others have done. His association with Dr. Apostoli has given the impetus which was necessary to inaugurate such a work. In speaking of his master, Apostoli, the author says: "His name will ever be indissolubly linked with gynecological electro-therapeutics. Many of the ablest men of to-day carry with them the delightful souvenirs of individual contact with one who was always courteous, obliging and honest; who is as free from the dross of life as a man can be, and whose extensive observation, patient investigation and research are sources of wonder. I have had the free use of his clinic, of his records, of his library and instruments, since October, 1888, and during the days of treatment in the Rue de Jour I have been in contact with medical men from all parts of the world. They know that whereof I write is true."

Dr. Bigelow speaks from a full experience. His first chapters are taken up with the fundamentals of electricity. His subsequent chapters are compilations from recognized authorities on his subject everywhere—Spencer Wells, Thomas and Skene Keith, Webb, Playfair, of England; of Mundé, Engleman, Grandin, Rockwell, Kimball, Massey, Laphorn Smith and Martin, of America.

Of the class of cases in which the electric treatment stands us in good stead the author specifies:

Fibroid tumors of the uterus.
Hypertrophy of the uterus.
Non-suppurative salpingitis.
Metritis.
Endometritis.
Subinvolution, superinvolution.
Disorders of menstruation.
Ovarian pain.
Chronic oöphoritis.
Periuterine inflammation.
Displacements.
Hæmatocele.
Some hystero-neuroses.
Stenosis of the cervical canal.
Erosions of the cervix.
Nausea of pregnancy.

The introduction to the work by Dr. Georges Apostoli is not the least interesting chapter of the work.

The book is well worth the perusal of mad operators.

Artificial Anæsthesia. A Manual of Anæsthetic Agents and their Employment in the Treatment of Disease. By Laurence Turnbull, M.D., Ph.G., Aural Surgeon to Jefferson College Hospital, Philadelphia; late Honorary President of the Otological Sub-section of the British Medical Association, etc. With illustrations. Philadelphia: P. Blakiston, Son & Co. 1890.

The third edition of this valuable manual, revised and enlarged, is just issued from the publishing house of P. Blakiston, Son & Co. A thorough revision of his former work is here presented by the author. The various anæsthetics, local and general, are fully described, and the recorded observations of a large number of physicians experienced in their administration are embodied in the text. The indications for their use are fully described, the cautions to be observed in their administration are properly set forth, and the means to be used to prevent untoward results are explicitly stated. The closing chapter upon "The Medico-Legal Relations of Anæsthetics" will well repay the cost of the work.

WOOD'S MEDICAL AND SURGICAL MONOGRAPHS. Vol. 4. No. 1. October, 1889. Published Monthly, $10 a year; single copies, $1. New York: Wm. Wood & Co.

The October number contains short essays by John Brown, M.D., of Glasgow, on "The Influence of the Male Element upon the Female Organism," and by A. Symons Eccles, M.B., on "The Internal and External Temperature of the Human Body as modified by Muscle-Kneading." The remainder of the number is devoted to an extensive and valuable treatise by Thos. Bryant, F.R.C.S., on "The Diseases of the Breast." Mr. Bryant's work is well illustrated by engravings and excellent chromo-lithographs.

The Physician's Leisure Library. EDUCATION AND CULTURE AS RELATED TO THE HEALTH AND DISEASES OF WOMEN. By ALEX. J. C. SKENE, M.D. Detroit, Mich.: Geo. S. Davis, 1889. Pp. 127.

The writer informs us at the outset that "this work originated in a desire to answer a few of the many inquiries made by those who seek medical counsel regarding the care and education of the young." Dealing as it does with a medico-society subject and giving the author's reply to the oft repeated questions of his patients it will naturally find many if not most of its readers outside the medical profession. But to all readers, whether of the medical profession or not, we can warmly recommend this thoughtful and interesting book. We quite agree with Dr. Skene that such teachings as he inculcates cannot be expected and do not come with full force from other than medical men and women and, we may add, they are only useful when emanating from those who have grown wise from much observation and experience.

MISCELLANY.

LETTERS RECEIVED.

Dr. H. T. Rennolds, Baltimore, Md.; Dr. W. H. Wathen, Louisville, Ky.; Dr. Wm. G. Parrish, Burlington, N. J.; Thomas Cook & Son, New York; Dr. A. L. Hummel, Philadelphia; J. H. Chambers & Co., St. Louis, Mo.; Dr. F. E. Kerr, Chattanooga, Tenn,; Dr. S. L. Knapp, Mt. Vernon, Mo.; Dr. R. A. Lancaster, Gainesville, Fla.; Dr. Ephraim Cutter, New York; Dr. A. P. Clarke, Cambridge, Mass.; Dr. J. C. Mulhall, Cincinnati, O.; Dr. R. Stansbury Sutton, Pittsburg, Pa.; Thomas Leeming & Co., New York; Netherlands-American Steam Navigation Co., New York; Dr. F. A. Long, Madison, Neb.; T. E. McArdle, Washington; Free Press Printing Co., Mankato, Minn.; E. Merck, New York; Dr. David Streett, Baltimore, Md.; Dr. A. C. Lamothe Ramsay, St. Cloud, Minn.; Dr. M. A. Olive, Meridian, Tex.; Dr. H. A. Kelso, Paxton, Ill.; Dr. C. C. Hunt, Dixon, Ill.; Dr. J. B. Crowley, Sullivan, Ind.; Dr. P. W. Tomlinson, Wilmington, Del.; Dr. W. R. Townsend, New York; Dr. J. E. Charles, Chicago; Dr. E. A. Snepston, Emory, Tex.; Dr. J. W. Eldred, Chesaning, Mich.; Dr. Clara Marshall, Philadelphia; Dr. C. N. Pierce, Sec'y Woman's Med. College of Pennsylania, Philadelphia; Dr. M. R. Crain, Rutland, Vt.; Dr. J. H. Krause, Plumsteadville, Pa.; The Dixie Doctor, Atlanta, Ga.; Dr. J. W. Green, Shelbyville, Ind.; Dr. Richard J. Dunglison, Philadelphia; Dr. Paul Roach, Quaker St., N. Y.; Dr. J. H. Ludwig, La Porte, Ind.; E. B. Treat, New York; Dr. J. A. Webb, Providence, R. I.; Dr. J. E. Mears, Philadelphia; S. B. Hood, Sparta, Ill.; Dr. F. Glendenning, Lineville, Ia.; G. Mathey, New York; Dr. C. R. Early, Ridgeway, Pa.; Dr. F. H. Bosworth, New York; Dr. John C. Sundberg, San Francisco, Cal.; Dr. W. H. Allport, Dr. A. J. Coey, Chicago; Dr. J. McF. Gaston, Atlanta, Ga.; B. Glick, Kansas City, Mo.; Dr. G. B. Massey, Philadelphia; Dr. A. S. Hamlin, Marysville, Cal.; Dr. J. L. Sargeant, Lodi, Cal.; Dr. A. Clark, Stockton, Cal.; Dr. Thos. Legaré, Charleston, S. C.; Dr. E. M. Shaw, Edna, Tex.; Dr. N. S. Craig, Cedar Rapids, Ia.; Dr. J. H. Van Eman, Kansas City, Mo.; Geo. F. Lasher, Philadelphia; Duryea Jewelry Co., New York; Dr. H. K. Tefft, Topeka, Kan.; Parke, Davis & Co., Detroit, Mich.; Dr. J. B. Mattison, Brooklyn, N. Y.; Dr. James E. Wilson, Philadelphia; Dr. Charles F. Stillman, Chicago; Lea Bros. & Co., Philadelphia; W. P. Cleary, J. Movius & Sons, New York; John Wyeth & Bro., Philadelphia; J. Astier, Paris, France; Scoville & Adams Co., New York; Dr. Alfred C. Haven, Lake Forest, Ill.; Dr. Wm. B. Atkinson, Dr. Solis-Cohen, Philadelphia; Wm. S. Merrill Co., Cincinnati, O.

Official List of Changes in the Stations and Duties of Officers Serving in the Medical Department, U. S. Army, from March 22, 1890, to March 28, 1890.

First Lieut. N. S. Jarvis, Asst. Surgeon, is granted leave of absence for one month, with permission to apply for an extension of fifteen days. Par. 1, S. O. 34, Hdqrs. Dept. of the Missouri, Ft. Leavenworth, Kan., March 20, 1890.

By direction of the Secretary of War, authority is granted for the admission of Capt. Marcus E. Taylor, Asst. Surgeon, to the Army and Navy General Hospital, Hot Springs, Ark., for treatment therein. Par. 6, S. O., A. G. O., March 21, 1890.

Capt. M. E. Taylor, Asst. Surgeon, is granted leave of absence for one month, based on surgeon's certificate of disability, with permission to apply for an extension of one month. Par. 3, S. O. 26, Dept. of the Columbia, March 18, 1890.

Official List of Changes in the Medical Corps of the U. S. Navy for the Week Ending March 29, 1890.

P. A. Surgeon H. E. Ames, ordered to Museum of Hygiene, Washington, D. C.

Official List of Changes of Stations and Duties of Medical Officers of the U. S. Marine-Hospital Service, from March 3, 1890, to March 24, 1890.

Surgeon W. H. Long, leave of absence extended five days. March 11, 1890.

P. A. Surgeon S. C. Devan, to proceed to Erie, Pa., as inspector. March 12, 1890.

Asst. Surgeon F. C. Heath, to proceed to Cleveland, O., for temporary duty. March 18, 1890.

Asst. Surgeon W. G. Stimpson, commissioned Asst. Surgeon March 11, 1890. Assigned to temporary duty at New York, N. Y. March 13, 1890.

THE
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ORIGINAL ARTICLES.

A STUDY IN DENTAL PATHOLOGY, INCLUDING PITS AND FISSURES OF THE ENAMEL AND INTERGLOBULAR SPACES IN DENTINE.

Read in the Section of Dental and Oral Surgery at the Fortieth Annual Meeting of the American Medical Association, June, 1889.

BY R. R. ANDREWS, D.D.S.,
OF CAMBRIDGE, MASS.

Mr. President and Gentlemen:—The subject to which I desire to call your attention this morning, "The Pits and Fissures of the Enamel," is one more or less familiar to us. I have been much interested, while studying the development of the teeth, in some of the phases of this form of interruption of the continuity of the enamel cap, and also in the causes which have led to it. Almost all authorities have given these imperfections their attention. Hunter speaks of them as cracks on the hollow parts of the grinding surfaces of the molars, filled with a black substance; and Fox, writing in 1803, describes them as irregularities of the grinding surface of the molars that lead into a cavity in the centre of the tooth. During the progress of the decay it is under this fissure in the internal part of the crown that we find soonest removed, causing the tooth to appear as if the inside had been scooped out. The enamel, being so much harder than the bone, remains, and only breaks away as it loses its support from the bony part becoming dissolved and removed. The chief predisposition to this disease consists in a defective formation of either the enamel or the bony part of the teeth. This original defect in the structure of the teeth, he says, must depend upon a want of healthy action in the pulps during the time of the formation of them. It is impossible for him to conjecture what can be the cause of this imperfection, but he observes that it is very singular and also very certain that the same kind of structure may be observed in the teeth of many individuals in the same family, who in all other respects are very healthy. He furthermore says that the teeth acquire this disposition to decay from some want of healthy action during their formation. This is proven by common observation that these become decayed in pairs—that is, those teeth that are formed at the same time, being in a similar state of imperfection, have not the power to resist the causes of disease. He asserts that in some of the teeth the decay is seen to proceed from the interior to the exterior part. In 1835 William Robertson, of Birmingham, England, published a remarkable work entitled, "A Practical Treatise on the Human Teeth," showing the cause of their destruction and the means of their preservation. In this work he has probably given more attention to the subject of pits and fissures than any other writer since his time, with the possible exception of Magitot and Wedl.

He has examined most attentively these peculiar imperfections, at which each of the several teeth are most liable to the beginnings of decay, and states that it never occurs on clean and smooth surfaces, but, on the contrary, the attack is in all instances made at such points as collect and retain the food, as in the interstices between the teeth, in pits and fissures in the enamel, or at such other points as from any cause whatever retain the particles until fermentation takes place. He denies *in toto* Fox's assertion that in some of the teeth the decay is seen to proceed from the interior to the exterior part. He was the first writer to tell us that all decay is the result of chemical action. He considers the pits and fissures so often found in the enamel, particularly upon the surfaces of the grinding teeth, the principal cause of their destruction. Mr. Robertson claims that it is to this irregularity of structure, so peculiar to the molar teeth, that their greater tendency to decay is to be attributed, and the liability of the teeth in different individuals to decay will be in proportion to the form and depth of these fissures. On the other hand, where there is a close union of the sections of the enamel upon the surface of the teeth, there will be no tendency to decay. The enamel is completed and the secreting membrane removed previously to the tooth appearing above the gum, so that no other change can take place in the structure of this substance, nor can it be affected by any of the constitutional diseases or changes to which the human body is subject. Therefore, the durability of the teeth or their predisposition to decay will depend upon the state of the constitution at that early period of life when the enamel is being formed. The enamel of the teeth is now universally acknowledged to be an inorganic substance, and can only be acted upon chemically. Therefore, when a tooth has appeared above the gum we can readily ascertain whether it is or is not predisposed to decay by examining the structure of the enamel, and it will be found that the rapidity of the chemical action and the ultimate destruction of the tooth will be in proportion to the form of the fissures that may be found in it, and their capability of retaining more or less of extraneous matter.

Goddard, 1843, speaks of the fissures thus: "The process of decay here is exceedingly insidious, in consequence of the original opening in the enamel maintaining its primitive size until great destruction of the ivory has taken place beneath it, when it suddenly breaks in, and a large cavity is found where a few hours before none was suspected."

Kelly, 1843, tells us that decay commences in the body of the tooth, the enamel being nearly entire. In this case it commences in the bone (dentine) of the tooth, directly beneath the enamel, and is therefore called internal decay. It is not, however, always produced by internal or constitutional causes. Internal decay is not strongly marked in the molars at all ages. It commences beneath a fissure on the outside of the teeth; a black or blueish spot is at first observed, which increases in proportion to the superficial nature and extent of the disease, till a great part of the outside of the tooth is discolored. In a still greater number of cases the disease takes a direction toward the centre, disorganizes the spongy bone of the tooth, and possibly precludes all hope of its preservation before the enamel even cracks. In a third variety the disease burrows, for a longer or shorter time, so far within the crown of the tooth as to give little or no external indication of its true condition. The bicuspids are liable to similar attacks under their grinding surfaces, and with the same results. The upper incisors occasionally begin decay at a natural, though imperfectly formed, concavity directly in the centre of their inner surfaces; but when the enamel is entire we have reason to believe they never decay at this point. Those who argue that the constitution has but little to do with the teeth suppose that a fissure can always be found over the point where this variety of decay occurs, and hence the only exciting causes are outward and accidental. Allowing this defect to exist, it must be admitted, for it is proof itself, that the constitutional powers were originally unequal to the perfect organization of the teeth, and, consequently, its powers of resisting destructive agents are below the natural standard, which in the teeth are at best lower than in other parts of the system. It is obvious, then, that when any modification of the general health, or any local causes, dispose the teeth to decay, it will be seated where they are least protected on their surfaces in the fissures.

Tomes says that molar (and bicuspid) teeth may present to the naked eye all the appearances of a well developed organ, and yet the enamel may be imperfect, and the imperfection may be in such form as to insure the early loss of the tooth. From the natural depressions which separate the cusps of molar teeth minute but deep fissures may be extended through the enamel to within a short distance of the dentine, and they may become larger as they recede from the surface of the tooth. In most cases which he has examined they have been filled with cementum, or, rather, with that modification of cementum which constitutes Nasmyth's membrane, and very commonly they become the seat of decay. These minute crevices, the existence of which, in many teeth, an ordinary examination would not lead one to suspect, are constantly met with in connection with these forms of defective enamel. Again he says: "In the foremost rank as a predisposing cause to decay must be placed these deep but minute fissures found upon the masticating surfaces of the molars and bicuspids."

Salter, 1875, writes: "The defects in the enamel between the cusps of the molar and bicuspid teeth are very common and very fruitful of destructive disease. The fissures are frequently deep, and at the bottom there exists only a confused, ill-developed enamel that is cracked and porous, affording a most incomplete protection of the dentine from external influence. Depressions on the enamel sometimes occur in unusual positions, giving rise to similar results. Perhaps the most common of these occurs at the back of the superior incisor teeth, and is a pretty sure cause of decay in that situation. These are predisposing causes, practically leaving the surface of the dentine open to the attacks of fluids of the mouth. Where these defects are only superficial, the enamel itself may alone first suffer." Salter shows that the tissue under imperfectly formed enamel is always more or less faulty in structure, and says that this imperfect calcification of dentine is in itself a predisposing cause of decay; that when the calcification globules are imperfectly fused, decay is rapid when once attacked.

Wedl, in speaking of the cracks or fissures in the enamel, says: "These interruptions of continuity are observed very frequently upon the otherwise healthy, sound teeth of young persons. Upon close inspection by means of a lens they are found to be much more numerous than one would suspect at first. In order to obtain a definite idea of the appearance of the enamel cap when it presents fissures or carious spots, it is advisable to detach the cap by means of a 50 per cent. solution of sulphuric acid. In this way a clear and definite view of the fissures may be obtained. It may readily be shown that when the pigment deposit consequent upon decay is limited to a scarcely perceptible dark brown minute dot upon the masticating surface, it is much more extensive upon the internal or dentinal surface, where it has a roundish or jagged outline. When decay in the groove of a molar tooth is displayed in the form of a very narrow streak containing pigment, the affected portion upon the internal surface of the cap measures a fourth of a millimetre and upwards." Wedl speaks also of finding undermining decay in the substance of the enamel, where the particles of enamel have crumbled away and are detached, leaving a gap or a pit, which increases in extent in the deeper layers of this tissue. I have quite a number of examples of this undermining decay of the enamel in my own collection.

Magitot, 1870, speaks thus of congenital imperfection of structure . "The external imperfections, whose form vary infinitely, consist most commonly of vices of conformation of the enamel layer. These are dark colored, irregular grooves on the masticating faces of the molars and bicuspids, fissures which the finest probe penetrates with difficulty. They approach more or less near the dentine, and sometimes actually reach it and expose it. All their characteristics resemble closely decay of the first degree. They are exclusively due to intrafollicular disturbances of their dentification. Now these disturbances, when they occur, ought necessarily, owing to the law which governs them, to be produced simultaneously and in the same degree in all the teeth which are at the same moment in the process of dentification. This is, in fact, what happens, and here is found the explanation of identical congenital lesions upon homologous teeth, and, consequently, of decay which has the same relative position. It is not, then, surprising to see two molars, for example, or two incisors on opposite sides of the same jaw, presenting the same fissure, the same crevice, the same congenital cavity, and, in consequence, one position, one progress and one identical form of two parallel cases of decay."

Dr. G. V. Black states that "the occurrence of decay in fissures and pits is dependent principally on the opportunity given for fermentations at these points by the depth of the pits and fissures in the several teeth. This," he says, "is modified by the individual predisposition to decay. In the child this may be inferred after having learned the condition of the teeth of the parents. The enamel in this position is very thick and heavy, and the pit or fissure often penetrates it more or less completely, so that the decay apparently does not begin on the outside, but in the depths of the pit, from which it spreads under the strong enamel to a considerable extent, and often penetrates the dentine deeply before giving any sign, especially in children, where the dark color is not present as a warning; it is often shown by an ashy-gray color seen through the enamel. This type of decay appears very soon after the eruption of the teeth; the first to appear in the permanent teeth are usually the first molars. These cavities occur in about 25 per cent. of first molars, or an average of one to every patient who applies for a dental operation." My own experience teaches me to believe that this percentage is considerably under what it should be. Dr. Black's statement that the pits are very often absent in the bicuspids and incisors is not in accord with my experience. I find that they are almost as constantly present in the bicuspids as in the molars.

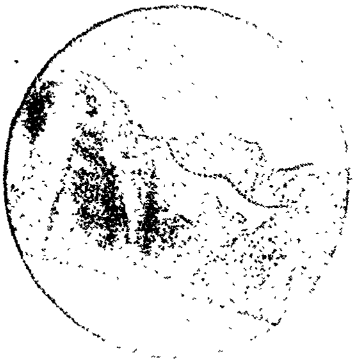
There are some characteristics in this form of imperfectly developed enamel that have interested me while studying its appearance under the microscope. You are certain to find a tract of imperfectly developed dentine under the fissures, and this I believe to be the original cause of the formation of the fissure itself. Thus, a deep fissure found in a recently erupted tooth is a certain sign of a mass of badly organized and softened dentine within, which may or may not at this time be infected with microörganisms. (See Plate, Fig. 1.) The delicate point of an exploring needle demonstrates that the dentine is nearly or quite exposed. A fissure drill pressed through this apparently enters normal dentine; a little deeper and sometimes considerably deeper drilling reaches the softened and extremely sensitive mass of the poorly organized tissue within. Under the microscope it presents what appears to be a pathological condition, differing from normal dentine inasmuch as the defect consists of masses of globules of various sizes, and the interglobular substance of a much less dense structure everywhere between them. (See Plate, Fig. 2.) The defective tissue is not against the enamel, but is found in the substance of the dentine, between the enamel and the pulp. The larger mass of imperfectly developed dentine is found to be directly under the fissures, (see Plate, Fig. 1,) but traces of this interglobular structure are found in other portions of the dentine, a result probably of a lack of nutrition, when these layers of the dentine were forming.

In studying the development of dentine with the higher powers of the microscope, in tissues which have been decalcified by the action of weak acids, we can see how these globules may have been formed. We find, between what was the fully calcified tissue and the adjacent organic tissue, a peculiar layer, hyaline in its appearance, which has been named calcoglobulin. In an investigation extending over several months, I have sarily be very rapid. Teeth having these characteristics are usually larger than teeth of the ordinary size. Their faces are rough and irregular with protuberances, rising not only from the grinding faces of the bicuspids and molars, but often from their sides with deep fissures between them. Their color is usually a muddy white. The palatine surfaces of the incisors and cuspids also have these fissures. They usually decay very rapidly and in some cases nearly set at defiance the resources of the dentist. Other classes of teeth having this same interruption, are found to be uncommonly long, of a bluish appearance, the incisors are thin and narrow and the cuspids much pointed. The bicuspids and molars are small in circumference and have deep fissures upon their grinding surfaces. They have a soft, chalky texture and the decay is usually light colored and rapid. Pits and fissures are by no means confined to this class of teeth. In teeth of far better quality fissures, cracks and pits in the enamel are commonly found. They are between the cusps, more often upon the prominences of the cusps, here in the form of pits, and upon the approximate surfaces of the teeth. (See Plate, Fig. 9, 10 and 11.) Some of these probably have their origin from accidental causes. On the prominences of the cusps the pits are often found to lead into what are called undermining caries of the enamel, that is, a place where decay is more extensive in the deeper layers than is apparent upon the surface. The pit leads here into a decayed spot, where the particles of decomposed enamel within the cavity have crumbled away, forming a cavity. These are more frequent than is generally supposed. Sometimes the pit is a dark spot, which leads into this cavity and sometimes it is light and difficult to see. It can usually be detected in teeth which are examined by a mirror, where light is transmitted through them, when it appears as a gray or brownish spot within the enamel. Although the cavities of decay are at first within the substance of the enamel they rapidly enlarge and expose the dentine, when infection follows. Cracks are often found on the approximal surfaces of poorly organized teeth. They lead into a decayed tract of the dentine, which is separated from the enamel by the decay, and which is deeply pigmented in color a yellowish brown. The tubuli everywhere against the decayed portion are found to be full of microorganisms, gas-bubbles and granules. These extend in a dark tract nearly to the pulp, looking as tubules do in dried sections when they are full of air. (See Plate, Fig. 10.) On other sections where pits are found upon the prominences of the cusps, dark brown tracts running through the enamel to the dentine are seen. The tubes near this tract are found to be discolored and infected. This line of infection runs into the substance of the dentine in the direction of the tubuli and nearly to the pulp. Between it and the pulp, however, there is a lighter layer of tissue, which may be caused either by the resistence of the pulp to the inroads of infection, or may be an uninfected decalcified layer, caused by the acid given off by the microörganisms. (See Plate, Fig. 11.) Where a section of the recently infected tooth has not been specially prepared by staining to show the organisms, the infected tubes have in them, minute bubbles of gas, which look like micrococci. Some of the bubbles join together like little rods, having the appearance in photo-micrographs of bacilli, and may easily be mistaken for such. (See Plate, Fig. 12.) Their origin is probable in the action of an acid on the lime-salts of the dentine. This acid is given off as a waste product of the bacteria and is every where present in early infected dentinal tubes. It has the appearance of what Prof. Miller has described as broken pipe-stems in the dentine, but I do not think it is the same thing. It is an easy matter to prove that these gas-bubbles are not microörganisms by staining the tissue. I have frequently seen them unstained in sections of carious dentine to which the microorganisms were stained a deep red. In all specimens of stained, early-infected dentine, these bubbles of gas are present in large numbers. Cracks are often found to be present in the enamel on the proximal surfaces of the bicuspids and molars near the neck which lead into the dentine. I have reason to believe these are more numerous than we suppose them to be, and that they are the cause of much approximal decay. Where the dentine within its substance is faulty, as in the cases I have already mentioned, these cracks may be the source of infection equally with the fissures in the crown. Dr. George S. Allen, of New York City, is the only writer that I now recall, who has called especial attention to these defects, in this location, although Wedl may have mentioned them. Dr. Allen says that calcification commencing on the prominences of the cusps gives rise to as many points of calcification as there are cusps. When they meet, from some unknown cause, these cusps do not always unite. Among other places faults of this kind are found on the cervical portion of the enamel, midway between the buccal and palatal faces. They differ from those found on other portions of the tooth, in that they resemble more closely an ordinary crack, that might have been caused by mechanical force or dessication. I can attest to the correctness of Dr. Allen's assertion by sections made across this portion of bicuspid teeth. These show crevices or cracks through the enamel in width sufficient to admit of infection by any of the microörganisms found in decayed teeth.

DESCRIPTION OF PLATE

FIG. 1.—Section of crown of bicuspid tooth through the fissure from mesial to distal surface, showing a tract of imperfectly de-

1



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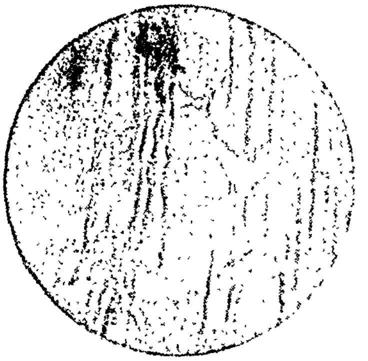

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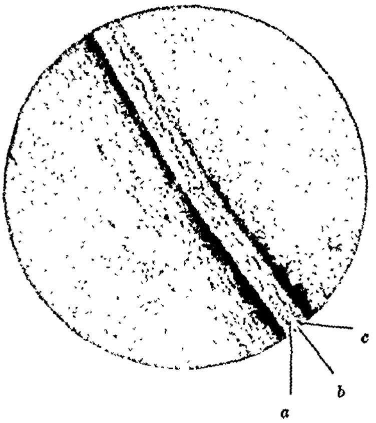

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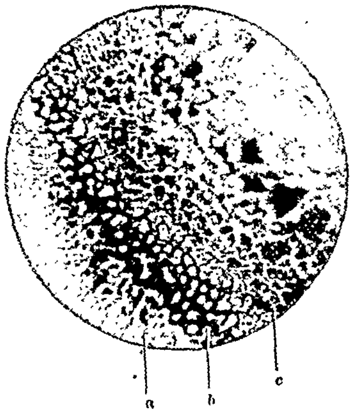

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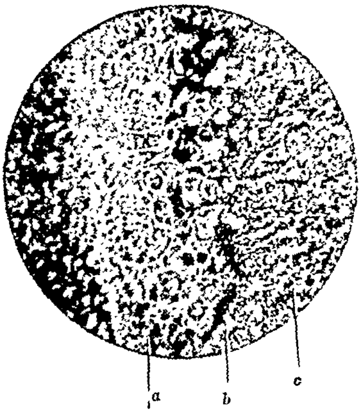

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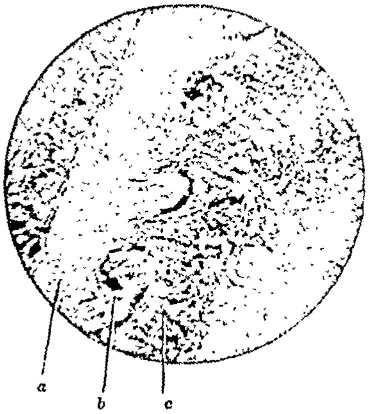

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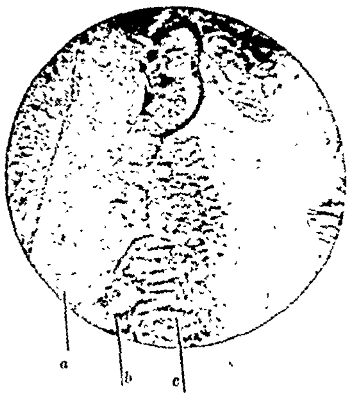

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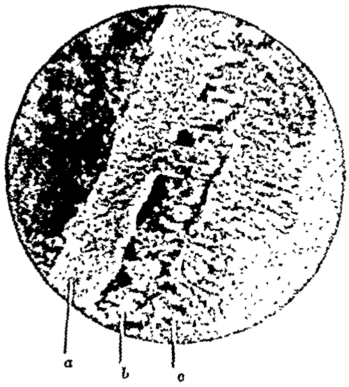

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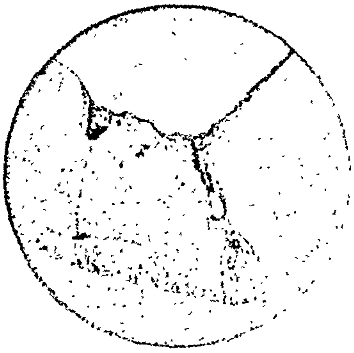

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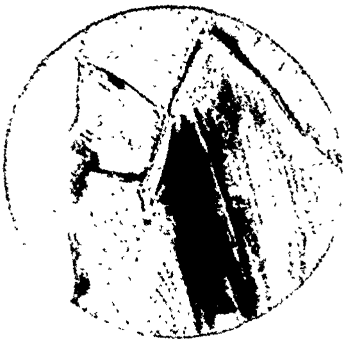

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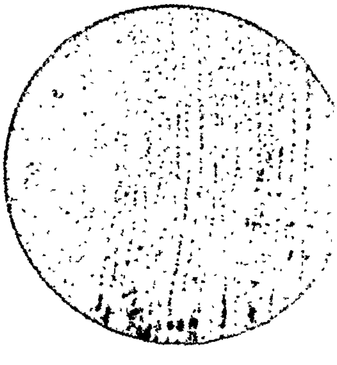

veloped dentine and the white zones of partially decalcified matrix under the fissure. About 50 diameters.

FIG. 2.—The imperfectly developed dentine under a high power, showing masses of globules of various sizes, and an interglobular substance of a much less dense structure everywhere between them. The tissue is infected, the tubules being distended by microörganisms. About 1500 diameters.

FIG. 3.—Cross section of calf tooth at birth. A, layer of formed dentine; B, layer of calcoglobulin; C, layer of odontoblasts and pulp tissue. About 200 diameters.

FIG. 4.—From tooth of human fœtus, sixth month, vertical section, showing the deposit of calco-spherites on the formed dentine from the enamel pulp. A, outer edge of formed dentine; B, small globular masses, calco-spherites. About 1200 diameters.

FIG. 5.—Cross section of calf tooth at birth, showing a forming band of dentine. The layer is seen to be made up by the coalescing of the globular masses. A, forming band of dentine; B, calco-spherites and odontoblasts; C, pulp tissue. About 1200 diameters.

FIG. 6.—Cross section of calf tooth at birth. A, band of formed dentine; B, large masses of calco-globulin forming new layer; C, odontoblastic layer and pulp tissue. About 1200 diameters.

FIG. 7.—The same, showing larger globular masses at B forming the new layer.

FIG. 8.—Cross section of calf tooth at birth. A, band of formed dentine; B, buds of calco-globulin forming new layer (these are seen in the central portion of the picture to have become part of the layer); C, pulp tissue. About 1200 diameters.

FIG. 9.—Longitudinal section between the cusps of a molar tooth, showing a pit and fissure in the enamel; also undermining caries of the enamel. The dark lines at the base of the enamel are lines showing infection. Under the enamel the dentinal tissue is not very satisfactorily shown in the illustration. About 200 diameters.

FIG. 10.—Showing cracks in the enamel on the proximal surface of a bicuspid, through which microörganisms have invaded the dentine. The dark mass within the cracks is decay, the tubules being full of microörganisms. The space under the cracks is caused by this decay. About 200 diameters.

FIG. 11.—Longitudinal section of molar, showing a pit in the eminence of a cusp through which infection has reached the dentine, the line of infection reaching nearly to the pulp. About 200 diameters.

FIG. 12.—Appearance of the line of infection of Fig. 11, as seen under a higher power. Tubules are seen to be filled with gas bubbles, granules and microörganisms. About 1200 diameters.

EMBOLUS OF A BRANCH OF THE RETINAL ARTERY, VISIBLE WITH THE OPHTHALMOSCOPE.—DISAPPEARANCE OF THE EMBOLUS AND NEARLY COMPLETE RECOVERY UNDER MASSAGE AND NITRATE OF AMYL.

Read in the Section of Ophthalmology at the Fortieth Annual Meeting of the American Medical Association, June, 1889.

BY H. GIFFORD, M.D.,
OF OMAHA, NEB.

On February 27th, 1889, I was called to see Mr. C., æt. 29. He stated that about half an hour before, while at breakfast, the right eye suddenly became blind. In a few moments, however, on rubbing the eye and applying hot water, the field cleared up, partly, below, and then remained stationary until my arrival. The eye was found normal externally, but the ophthalmoscope showed the lower branch of the retinal artery to be filled with a whitish plug, from a point just back of the surface of the disk to about one millimeter beyond its border. The plugged portion of the artery seemed of normal calibre and was of a dead yellowish white color. Peripheral to the clot, the calibre was not perceptibly reduced but the vessel had the color and appearance of a vein. A rough test of the field showed the absence of the entire upper half and of the contiguous 20°–30° at the nasal side. Having no test-types with me, the vision was not accurately tested. The eyeball was at once massaged vigorously for two or three minutes, without immediate effect. The patient was then directed to massage the ball for two minutes every half hour, and to inhale 5 minims of nitrate of amyl every three hours.

At 3 P. M. of the same day the patient was seen again and reported a decided improvement. An examination showed no positive trace of the former clot; all the arteries looked normal with the possible exception of a slight thickening at one point of the wall of the lower branch, which may perhaps have been an adherent remnant of the plug. Unfortunately I neglected to examine the periphery with minute care in the direct method, but an ordinary examination showed no traces of bits of the plug impacted in this region, nor did a more careful examination on the succeeding day. The field now, about seven hours after the occurrence of the embolism, was found to be entirely restored in about 50° at the temporal side, the area corresponding to that part of the retina supplied by the median artery. The remainder of the upper half of the field lacked between 10° and 20° at the periphery, this blank being followed by a zone about 20° wide in which objects were seen dimly; followed in the upper nasal quadrant by a sector-like scotoma, with a very irregular border at the temporal side, reaching down close to the point of fixation. V.= $\frac{20}{30}$. The patient had already inhaled two five minim perls of the nitrate of amyl, and was ordered one more that day and two more the next forenoon; the massage being discontinued. The next afternoon the field was somewhat further improved and the dim area clearer. The retinal arteries appeared normal throughout, pulsating well on pressure on the globe; but to my surprise the characteristic œdema of the retina was well marked toward the centre of the fundus, in the temporal ¾ of the lower half of the retina.

No further treatment was given and the condition slowly improved till, on May 2nd, two months after the embolism occurred, with a normal fundus, the nasal two-thirds of the upper half of the field was contracted about 10° at the periphery and showed two small scotomata in the nasal quadrant with—0.5c ax. 180°, V. = $\frac{20}{20}$ in each eye. With regard to the etiology, the case gave no satisfaction. The patient was somewhat run down with over work, but aside from a chronic purulent otitis in the right side, was in good health. No evidence of kidney nor heart trouble.

Cases of embolism are so well known that ordinary cases are no longer reported, but cases in which a distinct well defined embolus can be seen with the ophthalmoscope are exceedingly rare. In the literature at my disposal, including full sets of Nagel's "Jahresberichte" and of the journals of von Graefe, Knapp and Zehender; besides the hand-books of Graefe-Saemisch and De Wecker-Landotte, I have found but four cases; and of cases in which therapeutic measures apparently achieved brilliant results I can find but two. The cases in which an embolus could be seen are those of Steffan,[1] Ewers,[2] Mules,[3] and Hirschberg.[4] In addition to these Saemisch[5] and Landesberg[6] have each reported a case in which a swelling of the obstructed branch without any differentiation of color, could be seen just central to the point where it suddenly narrowed and became bloodless or nearly so. In Knapp's famous case,[7] in which a hæmorrhagic infarct was first demonstrated, the plugged arterial branch was simply seen to emerge, nearly bloodless, from a reddish dirty-gray spot on the disk, the same spot also covering the vein. In Samelsohn's case,[8] in which, besides embolism of the central artery posterior to the disk, a dark-colored spindle shaped swelling was observed in the course of an otherwise bloodless artery, the supposed embolus was more probably a bit of blood retained by an irregular contraction of the artery.

Besides the above, several cases of embolism of separate arterial branches have been reported, in which the affected branch had a normal appearance for some distance from the centre of the disk and then suddenly, without previous discoloration or swelling, became thread-like or perfectly bloodless. In these cases, as in those of Saemisch and Landesberg, it is probable that the embolus was right there, in sight, at the point of sudden diminution of the vessel's calibre, for while it is hard to believe that an embolus should be so near the color of the normal artery as to be indistinguishable from it, it is still more difficult to conceive of its being located at any other point.

The two cases in which therapeutic measures seemed to be of immediate benefit are those of Mules and Hirschberg, mentioned above. Hirschberg's patient came to him within a few hours after the occurrence of the embolism. The ophthalmoscope showed the branch of the artery running down and out, normal about four disk-breadths, then followed a short stretch of about ⅓ a disk-breadth, containing a brownish "line-shaped" clot, followed, after a very short interval, by a dark-brown appearance of the further larger branches of the artery, which, in short stretches, were invisible so that the vessel appeared interrupted; vision = $\frac{15}{200}$, and the field showed a sector-shaped defect corresponding to the plugged vessel. The patient was made to look toward the nose while the ball was rubbed vigorously on the temporal side for about a minute till pain, lachrymation and phosphenes supervened. The patient soon reported vision improved, but no accurate test was made at the time. On his way home vision became normal and the next day the fundus and functions were normal. Mule's case appears to have been precisely like my own. His patient was a very healthy young woman who came to the hospital within an hour after the sudden appearance of a defect in the upper field. "Her right visual field was found contracted above. Seen under direct ophthalmoscopic examination the fundus showed a blocked lower retinal artery, the clot, which was colorless, being visible and extending from the entrance on the disk to the first bifurcation; the plugged vessel looked as if it had been stuffed with cotton-wool. The retina was slightly œdematous. Massage was tried and the clot disappeared, sight at once improved and the vessel was seen well filled." Noteworthy is the fact that the woman had a similar attack a year before and had recovered at once on rubbing the eye. In the abstract from which alone I know this case, it is not stated whether the recovery was complete or whether, as in my case, scotomata were left. In the discussion following Mule's paper it was suggested that the clot was probably composed of leucocytes, and some expressed doubt as to the embolic nature of the case. Frost thought the white appearance of the vessel was not due to its being plugged but to its being empty; and as this case is so similar to my own, the suggestion that the white portion of the vessel was empty, the real embolus lying further back, is worth considering. My reasons for thinking the whitish portions plugged and not empty are: first, that there was no perceptible diminution of the diameter at that portion; second, it is doubtful if a freshly emptied normal artery would look white at all. In Hirschberg's case the empty portions of the artery were not white but simply invisible. Later, when secondary changes have taken place, obliterated arteries appear as glistening white strings, but this plug was not a clear glistening white, rather dull and yellowish. Third, the relations of the branches of the central artery in my patient were such as to make highly improbable if not impossible for the clot to be located more centrally than the end of this white stretch. By reference to the sketch it will be seen that the central artery bifurcated almost at the level of the disk-surface, and the whitish stretch seemed to go clear back to the point of bifurcation, so that an embolus lying central to it would have plugged as well, the superior branch, which everything showed to be free. These considerations make me believe that the whitish portion of the vessel was plugged and not empty, at the same time I cannot say that it *must* have been plugged, for it can be urged on the other hand that I might have overlooked a slight decrease in the diameter; that the main branch with its thicker walls would be more apt to look whitish when empty, than the smaller branches which in Hirschberg's case were, where empty, invisible; and finally that the bit of artery containing the real plug, between the central end of the whitish stretch and the bifurcation of the central artery may have been so foreshortened as to appear wanting. The color of the plug might, at first thought, be urged against its genuiness, but *a priori* the objection is hardly warranted. Virchow[9] in prophesying that emboli would be directly seen with the ophthalmscope, said they would be recognized by their whitish appearance.

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[1] Steffan, Nagel's Jahresbericht v, 391.
[2] Ewers, Ibid., iii, 238
[3] Mules, Ophthalmic Review, August, 1888.
[4] Hirschberg, Centralblatt f. Augenheilkunde, Oct., 1888.
[5] Saemisch, Monatsblätter für. Augenheilkunde iv, 32.
[6] Landesberg, Archiv f. Augenheilkunde, iv, 1, 199.
[7] Knapp, Ibid., i, 1, 31.
[8] Samelsohn, Ibid., iii, 1, 32.

Regarding the suggestion that the plug was probably composed of leucocytes, this coincides with the friability which it must have possessed in order to be disposed of with so little permanent injury; though it is hard to imagine where such a clump of leucocytes could have originated in a healthy young person. The permanent contraction of the field and the scotomata indicate secondary plugging of small arteries, such as would be naturally expected after the breaking up of a clot in a large branch; and though these were not detected with the ophthalmoscope, it is possible that they might have been if the fundus had been gone over with the pupil widely dilated.

With regard to therapeutics, there appears to be no good reason why massage should not be tried in every fresh case of embolism. In old cases nothing is to be expected from it, nor is there much reason to be sanguine as to its effects in cases where the plug is situated so far back of the disk as to be uninfluenced by changes in the intra-ocular pressure. In other words results are to be looked for from massage, mainly in cases of embolism of a branch rather than the main central artery. It will be observed, that the three cases in which it has apparently done good were very recent. In Hirschberg's case the embolism occurred during the afternoon and the patient was seen at seven the same evening. Mule's patient was at the hospital within an hour after the embolism took place; while my case seems to have been observed earlier than any other on record, namely, after about half an hour. A fair estimate of the value of massage and other therapeutic measures is interfered with by the fact that while it is only in fresh cases that any particular result is to be hoped for, these are also the cases in which spontaneous recoveries occur. Such recoveries are probably much more frequent than we have any idea of, for, occurring as they do, generally before there is time to consult a physician, there is little chance of the oculist ever hearing of them and if he does, after they have occurred, they cannot be recorded as recoveries from embolism on account of the uncertainty in the diagnosis. Mauthner,[10] who had the fortune to witness a spontaneous recovery while he was studying the fundus of the affected eye, lays such stress on this chance that he advises doing nothing for an hour after the embolism has occurred, lest the plug be fixed more firmly, while, if left to the natural forces, it might be loosened gradually and carried away. That this unfortunate result of interference might possibly occur cannot be denied, still it seems altogether probable that as a rule such remedies as massage and nitrate of amyl would only facilitate the natural process. I should therefore, most decidedly urge the use of active measures as soon as possible.

With respect to the use of nitrate of amyl I supposed until recently that mine was the first case in which it had been employed. I find, however, that in the discussion of Mule's case, Jessop mentioned having tried it in a similar case, without effect. Theoretically, it would seem to promise more than massage, especially in embolism of the central artery where the plug is so far back as to be uninfluenced by variations in the intra-ocular pressure; and where there is no heart lesion, both should be certainly tried. I ordered 5 minims every three hours not knowing how much could be borne. In another case, I should try using it every hour. Where a heart-lesion is the probable source of the embolus, it might be questioned whether the chance of its relieving the embolism were greater than that of sending a second embolus after the first or perhaps into the other eye. Still if the heart itself could stand it, I should think its use warranted, even then, if massage alone should fail.

[Since writing the above it has occurred to me that the embolus may have been of fat. This would correspond well with its appearance and friability.]

EXTROVERSION OF THE BLADDER.

Read in the Section of Surgery and Anatomy, at the Fortieth Annual Meeting of the American Medical Association, June, 1889.

BY CHARLES B. PORTER, M.D.,
OF BOSTON, MASS.

The subject of the communication which I have the honor to present to you to-day is the report of operations upon two cases of extroversion of the bladder, a congenital deformity in which the bladder, with mucous surface exposed, protrudes hernia-like in the lower hypogastric region. Its anterior wall and corresponding portion of the abdominal parietes are wanting, and usually the symphysis pubis. The urine dribbles from the ureters, or is ejaculated in jets on coughing or sneezing. Its constant contact excoriates the skin of the genitals and thighs, and makes its possessor miserable and, with the attendant foul urinous odor, an object of repugnance to those about. This deformity is more common in males than in females. The other parts of the genito-urinary system are usually present in a more or less developed state. My cases present one of each sex, and in the description of the abnormalities in the two will appear a résumé of nearly all those found in the two sexes. Although this deformity is distressing, persons affected with it live for many years. Vigneau collected seventy-one cases which had not been operated upon, and found that ten died between 10 and 20 years, seventeen died between 20 and 40 years, five died between 40 and 50 years, and one reached the age of 70 years.

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[9] Virchow, quoted by Samelsohn, loc. cit.
[10] Mauthner, Nagel's Jahresbericht, iv, 337.

Nevertheless, in some cases the mucous membrane takes on a change resulting in malignant disease, due, probably, to the constant irritation of the urine and clothes. In one case, a man of middle life which I had the opportunity to watch, the exposed bladder became studded with epitheliomatous masses, and his last days were those of supreme suffering. It will be interesting to spend a few moments in considering the evolution, so to speak, of operative interference to remedy this deformity. So far as I can ascertain, no operation for the relief of exstrophy was performed until the last half of the present century, when Mr. Lloyd, of St. Bartholomew's, in 1851, made an attempt to divert the passage of the urine into the rectum by passing a seton from the bladder through into the rectum, intending subsequently, after the fistulous tract was established, to close the gap in the abdominal wall by refreshing its edges and uniting them by suture. Un- unately he was not able to complete the op- 'on, as his patient died on the fifth day from ritonitis. Post mortem examination showed that the recto-vesical fold of the peritoneum descended much lower than normal, and had been perforated by the seton. Since Lloyd's unsuccessful attempt to establish a fistulous communication with the rectum this has been accomplished by Simon. I have not been able to obtain an account of the operation and the length of time the patient lived, but another writer who refers to the case states that death was due to pyelonephritis, rather than the result of operative procedure. Holmes, in order to avoid a wound of the peritoneum, endeavored to establish a tunnel through the perineum, with communication of the ureters with the rectum. Its permeability was delusive and he abandoned his idea. Thomas Smith diverted each ureter into the colon of the corresponding side by successive operations. His patient died after the second, and the ureter first operated upon was found impermeable. Sonnenburg has extirpated the bladder, uniting the ureters to the abdominal wall at a central point. A shield and urinal was a subsequent necessity. In all the various operations mentioned for diverting the urine from its natural outlet there are elements of serious danger. In connection with this subject it will be interesting to refer to the results of some experiments on dogs by M. Tuffier, of Paris, to establish a communication between the ureters and intestine, and others by M. Dastre, to unite them to the abdominal wall; all died of peritonitis or pyelo-nephritis. The transplantation of the ureters into the rectum upon a dog has been done successfully by Prof. Novarro, of Sienna, and the operation reported before the Italian Surgical Society of Genoa. Until 1853 no successful attempts had been made to cover the exposed bladder by flaps, when almost synchronously Roux, Richard, Pancoast and Ayers each performed a successful operation by the transplantation of flaps of skin from the adjacent parts. The method of transplantation of the flaps and the region from which they are taken varies with each operator and the extent of the case, and results only in a cover for the exposed bladder, since no sphincter vesicæ can be formed. In the adult, and especially the male, the introverted skin grows its hairs, and the deposition upon these of the salts of the urine forms concretions which are analogous to stone in the bladder, and produce similar symptoms. To reduce this reservoir to a minimum, Dr. H. J. Bigelow, of Boston, in 1876, dissected the mucous membrane from the exposed surface above a line drawn transversely across the orifices of the ureters, and turned a flap of skin on to the denuded surface, which united, leaving only the part below the line of the ureters exposed. This was afterwards covered by another operation. Tredelenburg, of Bonn, reported to the sixteenth Congress of German Surgeons a number of cases by a new method. He says that an effective bladder covered with a genuine mucous membrane can only be obtained by the direct closing of the edges of the fissure, forming in the same manner a urethra lined with mucous membrane and a normally formed penis, with the possibility of the subsequent establishment of the function of the sphincter vesicæ. This is the conception of an ideal operation. According to his experience the loosening up of the soft parts enough to allow this is not possible, on account of the wide separation of the pubic bones. He has, therefore, in children, and he limits the age to those under six years, performed section of the sacro-iliac synchondrosis on both sides, and, by continued pressure kept up by special apparatus, has lessened the pubic hiatus to one centimetre. In no case has he obtained continence of urine.

The bringing together of simply the refreshed edges of the bladder has been attempted twice. A Strassburg surgeon first dissected up a small flap around the bladder two centimetres broad. Having pushed back the bladder by means of a rubber ball ending in a small tube, he united over it, by interrupted sutures, the refreshed borders of the skin, so that the ball found itself shut up in the new formed bladder. The stitches, with the exception of the two uppermost, came to naught, and the mother declined having anything further done.

Second Case.—In November, 1884, Dr. Hal. C. Wyman, of Detroit, did on a child five days old an operation as ideal as that of Tredelenburg, and without section of the sacro iliac synchondrosis. It was reported in the *Medical Record* of December, 1885, and from it I will quote the description of the operation:

"The child was given chloroform and the mucous membrane was removed in a strip one-half inch wide, running round the margin of the vesical wall, where it blended with the integument of the abdomen, except a small area which corresponded to the inferior wall of the urethra. Then an incision was made on each side through the integument and superficial fascia arising from Poupart's ligament, just forward of the anterior superior spine of the ileum, upward a distance of 2 inches, for the purpose of securing sufficient relaxation of tissue to let the opposite pared surfaces come together and unite. The pared surfaces were then transfixed with three hare-lip pins and a figure-of-eight ligature was passed about them, bringing the margins of the abdominal cleft in contact. Additional sutures were passed between the pins and on either side of them, securing perfect apposition of the opposed surfaces. The child progressed rapidly to recovery and a perfect union of the opposed surfaces resulted. It was my intention to make a second operation for the restoration of the urethra and dorsal portion of the penis, when two months later the child was attacked with convulsions, which terminated fatally, but had no apparent cause in the conditions leading to or growing out of the operation."

M. Pousson, surgeon to the Bordeaux Hospital, published last year a series of papers on this subject in the *Annales des Maladies des Organes genito-urinaires.* He had collected ninety-five cases, in many of which certain important data were wanting. He calls attention to the seeming great mortality, which amounted to fifteen deaths in the ninety-five cases, and says that at first sight the number seems enormous, for painful as the deformity may be, it does not compromise life. In justly estimating the mortality it must be remembered that of the fifteen deaths one was from cholera infantum five months after operation, one from pulmonary trouble one and a half months after, and one of erysipelas of the face; that reduces the mortality to twelve. Of these, Pousson was convinced that four ought to be attributed rather to a preëxisting pyelo-nephritis than to the operation itself. All told there remained eight cases in which death may be attributed to operative interference. Of these, four died of peritonitis, one of erysipelas, one of shock, and one an accident during anæsthesia. Of these eight cases three occurred where the urine was diverted into the intestinal tract, and five where the closure by flaps was performed. No deaths in the four cases of Sonnenburg and Niehans, where the bladder was extirpated and the ureters sewed to the anterior wall of the abdomen. No deaths in the six cases in which the approximation of the pubic bones was followed by bringing together the refreshed edges of the bladder; so that the operation of diverting the urine gives a mortality of 30 per cent.; operation by flaps, 6.33 per cent.; approximation of pubes, none; diverting of urine to abdominal walls, none. He concludes that age is indifferent to the success of the operation. All young children should be operated on as soon as possible, to take advantage of the vitality of their tissues and the rapid cicatrization of the wounds. The operator should not count on any coöperation of a child from 7 to 10 years of age, and if he wishes to rely on this as an aid, should defer interference to the age of 15. Although age diminishes the chances of success, it has been achieved in those as old as 40. Sex is unimportant.

CHOICE OF OPERATION.

With regard to the choice of operation, it seems to me that age and the extent of the cleft must determine. Up to the present time no operation has attained continence of urine. The results of diverting the urine into the intestine are not encouraging. Diverting the urine to a central point in the abdominal wall does not commend itself to me, although no deaths have followed the four cases I have been able to collect. Tredelenburg's operation has up to the present time achieved no more than the method by flaps, and I think any surgeon would hesitate to submit his own child to bilateral section of the sacro-iliac synchondroses as a preparative step to a closure of the vesical cleft. On an infant or young child Wyman's method is in suitable cases the best. It is practically Tredelenburg's, minus the objectionable feature of section of the sacro-iliac symphysis. The method by flaps is one adapted to both sexes and all ages. The surgeon, before operation, should inform himself as to the condition of the kidneys, and continually keep in mind the main result for which he is striving, namely, a free drainage of the urine, for otherwise the ordinary results from obstruction ultimately follow; these are dilatation of the ureters and destruction of the kidneys. None of the accompanying malformations contra-indicate the operation. The development of the prepuce and scrotum in the male, and the labia minora and majora in the female, furnish the operator abundant material for the display of his ingenuity in acquiring the flaps.

All the general rules of plastic surgery hold in these operations.

The flaps must be about a third larger than the gap to be filled.

They must be arranged in such a manner as to furnish their pedicles an abundant supply of blood.

During any delays in the operation they should be covered with hot towels, wet in an antiseptic solution.

They must be handled as little as possible, and rarely with forceps.

Any dragging on the pedicle endangers the vitality of the flap.

All bleeding must be arrested before the flaps are adjusted in position.

Light and gentle compression prevents any oozing between them.

The operation completed, they should be kept for hours under moist, hot, antiseptic dressings.

Perfect antisepsis should be maintained throughout.

Case 1.—A man æt. 25 years entered the Massachusetts General Hospital April 10, 1877. He had been a farm hand and able to do as much work as any one. There was complete extroversion of the bladder, the exposed portion being about 2½ inches in circumference and somewhat irregular in contour. A little below its middle and a short distance apart are the openings of the ureters. The mucous membrane is covered with ulcerations and concretions of the urinary salts. There is want of union between the pubic bones, which are separated about 2 inches. Just below the bladder there is a rudimentary penis about 2 inches in length; the urethra is exposed throughout, there being complete epispadias. The lower part of the urethra is turned up against the surface of the bladder, and the urine flowed constantly from each end of the sulcus thus formed down over the scrotum and perineum. On the under surface of the penis and the glans there is a large fold of loose skin representing the prepuce. The left testis is still in the abdomen, and on the right side there is a scrotal inguinal hernia. There is a slight umbilical hernia above the bladder. The whole region is excoriated from the constant irritation of the urine and the slightest touch causes intense pain. There has never been the slightest sexual desire or enjoyment. The patient was kept in bed, the parts carefully washed and oxide of zinc ointment applied to the excoriated parts. At the end of two weeks all the excoriations had healed and the skin was in a healthy condition suitable for operation. I decided to divide the operation into two stages: the first to obliterate that portion of the bladder above the ureters by Bigelow's method. The preliminary operation was as follows: The patient having been etherized, the mucous membrane of the bladder above the openings of the ureters was dissected off and the edge of sound skin surrounding this part of the bladder was refreshed. A skin flap about 1¾ by 4 inches large was then taken from the abdomen, the pedicle being above the right inguinal ring, and the longest diameter of the flap being nearly parallel with the axis of the body. The flap included the superficial epigastric artery, which was cut and tied at the upper end of the flap. The flap was then turned across the refreshed surface of the bladder and stitched to the surrounding skin with silk sutures. The wound from which the flap was taken was easily brought together and united. Warm compresses were held on the flap for several hours. In five days all stitches had been removed, and the wound of the abdomen was healed and the flap was firmly adherent to the upper part of the bladder. About four weeks after the first operation the parts had become entirely cicatrized, and the patient was up and about. A month after the first operation patient was again etherized and a second operation performed. At this operation I decided to make use of the skin of the penis, the preputial part of which was very abundant, to cover in the remaining exposed surface. The patient had never had any sexual desire. The penis was rudimentary and he wished me to make any disposition of it that seemed best. The prepuce devoid of hair would make the best possible flap to turn next the mucous membrane of the bladder, and thus avoid concretions which are so apt to form where hairs are present on the introverted flap. The corpus spongiosum with its urethral surface was dissected from the corpora cavernosa and left attached at its base. The skin of the penis was dissected off the corpora cavernosa as far down as possible, a double ligature of strong catgut passed through the corpora cavernosa at their origin from the rami of the pubes and tied each way, and the corpora cavernosa cut off close to the ligature. This left an abundant mass of skin and all the urethral mucous membrane. The penile portion was then split in the median line, the incision being carried down so as to allow the urethra to be brought through the slit; this was turned down and stitched to the edges of the cut so as to form a sort of trough running from the lower part of the bladder to a point which was near the root of the penis. The prepuce was then folded upon the penile skin and held in place by a catgut stitch on each side, so that on turning the flap up in front of the bladder the preputial portion was opposed to the mucous membrane of the bladder. The edges of the skin surrounding the bladder and the lower edge of the flap covering the upper part were refreshed and united to the edge of the preputial flap, which was also refreshed. The median slit was then united, with the exception of the lower part where the urethra came out. Thus it will be seen that the surface of the bladder was entirely covered in, the skin opposed to the mucous membrane being the hairless skin of the prepuce, and the urethra forming a tunnel, draining the cavity thus formed at its most dependent point. Silk and wire sutures were used to secure the flaps in position, and the vessels, which were large and numerous, were tied with catgut. A bent glass drainage tube was introduced through the new urethra and left in; warm compresses were held over the parts for several hours. For two days everything seemed favorable for a perfect result; flaps were apparently healing by first intention, and there was good circulation in every part. At the end of the second day, however, there was a sharp hæmorrhage from near the stump of one of the corpora cavernosa, and the clots tore away the upper corners of the preputial flaps. On tearing up the end of the urethra, which was already firmly adherent, and turning out the clots, all bleeding ceased. The flaps were then held in place by means of strips of fine silk gauze fastened on with flexible collodion. In six days there was union throughout except at the upper corner, and all stitches were removed. After this three other trifling operations were necessary to close the very minute openings at the corners, and a little over five months after the operation everything was entirely healed and all urine passed out through the urethra. A shield with rubber bag attached was fitted and the patient discharged from the hospital.

Case 2.—A girl æt. 8 years entered the Massachusetts General Hospital January 3, 1889. She was healthy and well formed, but for complete extroversion of the bladder. The cleft extended through the mons veneris symphysis pubis and urethra into the vagina, which was split throughout and formed a sort of trough down which the urine ran when she was in an upright position. The pubes were separated 3 inches. The mucous membrane of the bladder and vagina was exposed, bleeding on the slightest irritation. The ureters opened near the middle of the exposed surface an inch apart, and on coughing the urine was forced out in small jets. On straining the exposed bladder bulged out, forming quite a hernia. Surrounding the bladder was a ring of cicatricial tissue ½ inch wide. By the most careful rectal examination under ether, no uterus or uterine appendages could be felt. The child had always been well and healthy, and played about with other children until about two years ago, when she commenced to walk in a stooped and waddling fashion. The urine dribbled constantly and she was with the greatest difficulty kept clean. The parents are healthy and there has never been in either family a case of similar deformity.

OPERATION.

January 11, 1889. Ether given. A pattern in cloth was cut of the size required to cover the exposed surface. A flap of skin a third larger than the pattern to allow for shrinkage was raised from the middle of the abdomen between bladder and sternum. Its pedicle, which was broad, was attached just above the bladder. The flap was temporarily covered with towels wet in a hot solution of boracic acid. Two side flaps, each half the size of the large flap, were then cut from the pubic and inguinal region, with pedicle at the side of the split mons veneris. These were folded in hot wet towels. The skin around the bladder was now raised up about ½ inch, making a raw groove running around the margin of the vesical wall where it blended with the integument, except a small area which corresponded with the split vagina. The large abdominal flap was then turned down with the skin surface next the mucous membrane, and the edge stitched into the groove above mentioned, with fine catgut, leaving only on middle line a canal for passage of urine formed by the vagina. The two side flaps were then swung round towards the middle line, and their raw surfaces opposed to the raw surfaces of the abdominal flap. They were stitched to each other on the middle line and at their circumference to the same groove as the abdominal flap. In this manner a complete cover for the bladder was made. The abdominal wound from which the upper flap was taken was brought together by stitches in the middle line; the two internal wounds were left to close by granulation. A double rubber drainage tube was placed in the bladder thus formed. The seat of operation was covered with towels wet in a hot 3 per cent. solution of boracic acid, and they were changed frequently for a number of days. She made rapid recovery, the the wounds closing by first intention, except those at the side purposely left open to avoid traction on the flaps, and in less than three months was dressed and playing about the wards. A plaster cast was taken of the parts, and a hard rubber shield with urinal attached was fitted by Leach & Greene, of Boston. This she now wears, and I have the pleasure of showing it to you together with the patient herself.

THE RELATION OF TONSILLITIS TO RHEUMATISM.

Read by title in the Section of Laryngology and Otology at the Fortieth Annual Meeting of the American Medical Association, held at Newport, June 1889

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I am aware that I present on this occasion no new topic for your consideration, and am sure you might ask very properly, what profit can possibly grow out of its discussion. And yet we are all aware there are many simple questions in medicine not yet fully understood, and it is better to well develop those first, before we make an attempt to penetrate into the more intricate. It is also well to remember that all questions in medicine tend towards one end; that the lesser is contained in the greater, and in developing the simple we gain an insight into the more complicated.

The relation of tonsillitis to rheumatism is a very plain question, and needs no especial treatment for its elucidation. There are many stranger things in our experience than the association of such diseases, and however paradoxical it may at first appear, there are but few present, who, if they would think over their cases, would not call to mind numerous instances where these two apparently distinct affections came so closely together, or were combined in the same patient so intimately as to give no doubt of their etiological relations, though at the time treated as distinct diseases.

There can be no doubt there is a connection between tonsillitis and rheumatism, the subjects of which are also in a more or less degree rheumatic subjects, but whether they have the rheumatic diathesis, is a problem not easily solved. In all probability it carries with it also this distinguishing feature. This is proven not only by the diagnosis, but also by the treatment. Remedies applicable to, and which in the main cure rheumatism, cure tonsillitis, and *vice versa*. I might add also, that the same exciting cause apparently operates in the production or development of either disease, namely "catching cold."

But we are far from being correct, however, when we say that "catching cold" is only the exciting cause of either tonsillitis or rheumatism. So far as our present knowledge goes we are not in a position to affirm that tonsillitis or rheumatism originates *de novo*, either from a previous constitutional disturbance, or from an external exciting cause only. It is generally believed that constitutional predisposition is necessary, but whether this opinion is correct, whether this state of the system is accidental, or the effect of a rapid development of some special atmospheric contamination, some specific germ absorbed through, or by the alimentary tract, there is still some ground for doubt. We know that after exposure to wet, and cold, under some contributing circumstances, as depression, or general malaise, an attack is occasioned either of the one or the other, or of both combined. We do not stop to consider whether the affection was already absolutely in the system waiting for something to develop it, but at once begin to treat manifest symptoms presented to us by the inflammatory condition of either the tonsils, or the fibrous structures about the joints.

As we cannot then positively affirm, that either disease has simply or only, either an external or internal origin, if either may develop in a previously healthy person, after exposure to wet and cold, we can easily reconcile other seeming discrepancies between them, as to symptoms, as well as to cause and effect. If we consider the tonsils as primarily organs of absorption, and not differing materially from the general lymphatic system, through which morbid material may enter the economy, it is very fair to conclude that such material may cause inflammatory action in its passage, or by arrest in their tissues, if afterwards, by continued absorption through the neighboring lymphatics, which converge towards the tonsils it sets up a more general febrile condition, locating itself, or its greatest force upon some of the fibrous structures of the joints, or producing some other widespread quite as definite febrile disorder.

It has been demonstrated that the material in quite a number of septic diseases enter the system through the crypts of the tonsils, and have their primary manifestation there, and there is no doubt that such is the case, though perhaps this formula may be extended or modified by adding that this function of absorption is shared by the general buccal mucous membrane, though the principal absorption, no doubt, is through the crypts of the tonsils. If the tonsils are absorbing glands to withdraw excess of buccal and pharyngeal secretions, and with them all material normal or morbid there may be mixed with these fluids, it is not to be wondered at that their continued functional action in this direction should make them particularly liable to inflammatory conditions, manifesting such conditions first locally; and the greater the liability and degree of action, the more intense and energetic the morbid material absorbed.

So far we see the relation of tonsillitis to rheumatism as regards its external origin, or its etiology from an external standpoint. We see that the rheumatic nidus, or germ, if I may so call it, may be a positive external entity, may penetrate into the crypts of the tonsils, may stop there, producing tonsillitis, or may continue its course, originating general rheumatism of the synovial membrane of the joints—a general rheumatic seizure expending its influence, instead of in the tonsils, on the various articulating surfaces. This is not only possible but probable. We know that most inflammatory diseases have an extrinsic cause, and it is not unreasonable to believe there is no exception in the case of either rheumatism or tonsillitis.

Even if we recognize the view that the morbid material exists already in the fluids, and need only the exciting cause to develop it into active life, this does not militate against the part taken by the excitant, the yeast, the ferment, to arouse the dominant affection—for the one is but the faggot, the other the fire that kindles the flame, and in either case the relation may be traced onwards from its incipiency, to its conclusion. Whatever may be the theoretical aspect of the subject, however, it is a well known, and simple clinical fact, that after, or during continued exposure to wet and cold, a person may be seized with either tonsillitis or rheumatism, and this is in many cases all we know or is the limit of our knowledge in regard to it.

We surmise, or assume certain things, as to the pathological condition of the blood, and other fluids, whether there is an excess of lactic or lithic acid; but whether this condition originated before or after the exposure, we are at a loss to say,—and we deal with the case according to this theory. If you make a clinical examination of a case of rheumatic tonsillitis you will find no very material or marked difference in the symptioms, and course, from those of an ordinary hyperplastic inflammation of the tonsils. You will find in *rheumatic tonsillitis the induration is more marked*, the inflammation is less inclined to suppurate, and the induration and thickening of adjacent paritonsillar tissues more considerable. There is also probably more intense pain and suffering, and its fugacity or tendency to shift position is more observable. But otherwise the case proceeds from the chill or chilly sensation and subsequent fever, to induration and resolution, in the same way that an ordinary hyperplastic tonsillitis would do, but is subject to treatment peculiar to itself. Though the differences in these two varieties of tonsillitis, are not very great, it is well to observe them closely, as very much depends on this observation when we come to the treatment. The difference lies in its mode of attack, the peculiarity of the inflammation, the rheumatic element in its composition, and the therapeutics necessary to arrest it.

I would insist then, in the examination of the many cases of tonsillitis that fall to our lot to treat, upon a proper differentiation in each case, that we remember they assume distinct types, as the rheumatic, and that they often have an intimate relation to a distinct affection, and develop in proportion to a general predisposition. All persons are probably to a greater or less degree predisposed to acute rheumatism (though the predisposition is unequal in different persons); as well as to acute tonsillitis,—but we may usually differentiate rheumatic tonsillitis in that it oftener occurs in robust, full-blooded persons, than in the weak, and anæmic, while other types of tonsillitis attack the strumous and delicate, that it is rare in early childhood, and in old age, is more frequent in the working classes than the well-to-do, that it occurs during the cold, damp weather of winter and spring, and in persons who have had attacks of articular rheumatism, in which its disposition to shift its position from one synovial capsule to another, and even to the tonsils was apparent, its severity being in proportion to the predisposition and its duration usually more considerably extended.

Having thus in a preliminary way alluded briefly to the more theoretical aspect of the subject, I will relate the history of the two following selected cases as an illustration of some of the relations of tonsillitis and rheumatism.

P. R., female, 23, single, regular, previously in good health, not subject to frequent attacks, but has had tonsillitis before, never had rheumatism. After exposure to wet and cold, on a very inclement day in March while viewing a procession. was seized next day with a very severe attack of *tonsillitis*. She had *high fever*, *sore throat*, *dysphagia*, swollen tonsils, almost approximating, intense pain of the throat and fauces, pulse 130, temp. 102.5.. On the sixth day the inflammation and swelling had subsided and she was apparently well. Two days after the fever returned, the *joints* of the wrists and elbows, and then one joint after another became implicated, with the cervical region of the spine, making her quite helpless. She had two severe attacks of heart pang and syncope, and was in imminent danger. The attack continued quite six weeks before convalescence began, when her tonsils swelled and became painful again, though in a milder way than the first attack, when the tonsillar trouble with the rheumatism gradually subsided together, —leaving her in a weakened condition.

M. S., female, married, three children, in fair condition, menstruation regular, subject to subacute rheumatism for years. Suffers mostly during autumn and early winter. Swelling and pain begin first in the joints of the fingers and wrists, and from that beginning several of the joints suffer but not in regular order, somtimes only two or three, sometimes more. She suffers also from tonsillitis, but not always synchronously with rheumatism. If she had an attack of tonsillitis it wards off an attack of rheumatism, or if rheumatism follows, it is milder; if of rheumatism, the tonsillitis does not occur. There is a compensation between them—the tonsillitis especially modifying the rheumatic attack.

I might relate many cases of similar import, where convalescence from tonsillitis has been considerably protracted by a subsequent attack of rheumatism, either acute or subacute, or the reverse, from which it may be fairly concluded that rheumatism may induce tonsillitis, or tonsillitis rheumatism, under conditions favorable to their development.

An analysis of these cases from a pathological or even an anatomical standpoint, is no easy matter. From what we know of rheumatism we are led to believe it is a painful febrile disease whose seat is in the fibrous tissues—the joints, aponeurosis, sheaths of the tendons neurilemma, periosteum, or in the muscles and tendons, and not due to traumatism; or an inflammatory action of such tissues excited solely by external causes, or by a morbid condition of the circulating fluids, usually demonstrated as an accumulation of the débris of tissue change, or metamorphosis, and principally found in the form of some not well defined acid, as lithic acid, in excess.

There is in the tonsils we may say, as an offset, anatomically, lymph follicles, fibrous and retiform, and peritonsillar connective tissue, which answer in every respect to the fibrous tissue in the joints, and other portions of the body; and if we place the anatomical relations of both in the same category, we cannot be otherwise than struck with the similarity of the symptoms, and course in both diseases. So that in this respect also, the parallel may be drawn in a way not inconsistent with their relation.

As regards the therapeutics of rheumatico-tonsillar inflammation, it would appear that the alkaline treatment is that which is best indicated. The same treatment indeed that is indicated in general acute rheumatism: bicarbonate of potassa, or soda with Dover's powder, salicylate of potassa, or soda, or salol, internally, with a spray of glyceride of borax and carbolic acid, keeping the bowels open and restricting the nitrogenous diet, with acidulous drinks, is all that is generally required in its management.

The termination of the attack is generally uncertain; is often protracted, and is very prone to leave a residual complication.

Thus the relation of tonsillitis to rheumatism may be traced pretty clearly by its etiology, its pathology, as well as clinically and anatomically, and also as regards its therapeutics, and in closing this brief sketch, though I am sure very imperfectly, of their relationship, I present the following conclusions as a review of the propositions I have attempted to make:

1. They have probably the same etiological factors.
2. These are not very apparent, but are doubtless represented by some agents, atmospheric in principle.
3. They are equally liable to the same cause.
4. Which may produce one or the other.
5. Their pathology is similar.
6. Their anatomical elements very nearly related.
7. Their symptoms and course very much alike.
8. Their therapeutics allied in every particular.

The Local Treatment of Syphilitic Phenomena.—Dr. G. Frank Lydston, of Chicago, says that the obstinate headaches of both late and early syphilis, whether associated with cranial bone lesions or not, are benefited by frictions of the scalp with hydrarg. oleat., 10 per cent. In obstinate cases a blister to the nuchia, followed by mercurial plaster, is quite effective. There are occasional cases of cephalalgia associated with the cachexia syphilitica where the galvanic current is of great service.

REMARKS AND CLINICAL REPORT ON THE USE OF THE WEIGERT HOT AIR INHALING APPARATUS.

Read in the Section of Laryngology and Otology at the Fortieth Annual Meeting of the American Medical Association, June, 1889.

BY E. L. SHURLY, M.D.,
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In presenting the following brief and imperfect report of the "Weigert Apparatus," I desire only to report progress and suggest certain indications for its further trial, that it may reach its proper level among the armamentaria for the treatment of that dreadful malady known under various conditions as *phthisis pulmonalis.*

Attention has been called before to the inhalation of *hot aerial medicaments* as a remedy; in 1879 I read a paper before the Michigan State Medical Society in which I called attention to a rude apparatus, which I had devised and had been using for some time, to enable patients to inhale a hot balsamic air, with the idea and result of diminishing excessive expectoration. My attention has also been called lately (by Dr. Price Brown of Toronto, Ont.) to cases of individual stokers and molders who have seemed to enjoy comparative immunity from phthisis, notwithstanding strong hereditary and other predisposing causes. The Weigert apparatus, however, is the best and most complete for carrying out such a plan of treatment, and just what its therapeutic value may prove to be is yet a question, for as far as I am able to learn, the highly colored accounts of its successful application do not seem to be borne out here—although perhaps in this country our facilities for experimentation may be meagre, and our conservatism so much greater compared with our old world professional brethren, that their results may not be a fair measure for judgment. It is greatly to be regretted that the apparatus has been *patented* by a *member of the profession*, and that the *commercial* element is so predominating in its introduction to use.

We have been using the Weigert apparatus in Harper Hospital, Detroit, since about March 14, 1889, and, although using it on about twenty patients, more or less, we have only used it in about eight with a constancy and exclusiveness that would serve as a test.

Case 1.—Mrs. S., æt. 39, pneumonic phthisis. Ill since last November; entered the hospital March 16, both lungs involved; right considerably broken down; sputum abounding with myriads of bacilli; patient very weak and emaciated, with hectic fever and anorexia; able to be out of bed only a short time during the day; temperature range, 97° to 99° morning, and 102° to 104° evening. Began administering hot air inhalation by the Weigert apparatus, of ten to fifteen minutes duration twice daily at a temperature of 100° to 110°, increasing duration and gradually increasing temperature of air to 120°—the highest which could be borne—was obliged to discontinue on account of the discomfort, in the form of pain in the chest and heat of throat, experienced by patient; no rise of temperature followed, and often easier respiration. Died May 29.

Case 2.—B. O'C., male, æt. 29. Family history bad; hemoptysis eight months before entrance to hospital (March 5); in good flesh, some hectic fever, nocturnal sweating, considerable cough and expectoration, containing a few bacilli, some pus, much emaciated, and weakness growing. Examination showed consolidation with softening spots in upper left lung; pulse range from 90° to 110°, temperature from 99° to 101°; not much anorexia. Administered hot air twice, three and four times daily for from fifteen to forty minutes, at a temperature ranging from 120° to 200, the latter temp. on three occasions only; and 180° and 190° on several occasions; the immediate effects were generally good; no untoward signs or sensations following. He left the hospital for the South April 15, improved in every way, since then have not heard from him.

Case 3.—Wm. M., æt. 22. Entered hospital March 7. Been ill with cough, hectic, fever, etc., about six months; habits not good. Consolidation of upper right lung with softening at apex, also consolidated spots in lower right lung; respiration 26 to 30, pulse ranging from 90 to 115, temperature 99° to 102° at times reaching 104°, expectoration containing *no* bacilli. Began inhalations twice a day for fifteen minutes at a sitting, at temperature of 110°, increasing to three or four times a day of twenty to twenty-five minutes each, with temperature sometimes as high as 195° on three occasions. Inhalations seemed to cause nausea and vomiting; inhalations always caused increase of temperature and increase of pulse beat from 5 to 15 beats—temperature was raised from 1° to 3°. April 17, had hemoptysis; hectic fever diminished in frequency, and when he left the hospital, April 18, was stronger, with less cough and expectoration, and better appetite. He is away from here now, but, I hear, improving.

Case 4.—Miss K. McD., æt. 19. Entered the hospital March 19. Family history good; been ill two months with cough, expectoration, and severe hectic fever—looked anæmic; felt weak, and had severe nocturnal sweating and suppression of menses. Examination showed some consolidation and mucous râles over both "upper fronts;" *never had hemoptysis*, considerable expectoration, bacilli. Pulse range 80 to 100, temperature range 98° to 102.5° from 18th to 31st. Hot air inhalations from 100° increasing to 120°, four or five times a day. Discontinued after about ten days, as patient could not stand it, as it caused febrile movement, pain in chest, and breathlessness with nausea. How much was imaginary, cannot say. There was no diminution of bacilli. Is failing.

Case 5.—Miss N. W., æt. 17. Entered the hospital March 15. Healthy, ruddy appearance. Menstruation regular. Been ill one year with cough (on and off) and occasional fever. The illness began with an abscess in axillary glands. No discharge from axilla since November. Two months ago began to have a painful throat, and since one month aphonia. Not much cough or expectoration; bacilli in sputum; larynx swollen in arytenoid region and studded with small ulcers. Consolidation of upper left lung, but no râles; "is up" all day; occasional diarrhœa; pulse range 80 to 110, temperature 97° to 101°; some nocturnal sweating, and considerable diarrhœa at times. Administered inhalations twice and three times daily for about a week when patient could not bear them any longer on account of extreme pain in throat. On account of rapid swelling of larynx had to resort to gavage. Patient left hospital April 26, very weak and emaciated, and died May 24, 1889. This was undoubtedly a case of *general* tuberculosis, with laryngeal disease predominating.

Case 6.—A. M., female, æt. 18. Been ill with cough ten months. Hemoptysis eight months ago, and progressive emaciation, hectic fever, etc., since. Auscultation showed cavities over both upper lungs—more advanced over left. Great expectoration, with bacilli, and diarrhœa very severe at times. Entered hospital April. Pulse range 90 to 130. Temperature 96.5° to 104°, from April 24 to May 31. Respiration 26 to 32. Administered hot air twice to three times daily, from ten to twenty-five minutes at a time—patient could no take it longer. A temperature of 110° to 175° was the highest that could be borne. She took the inhalation well, and, excepting three times when she felt weak, experienced ease and comfort, with diminution of cough, expectoration, and fever. A severe attack of diarrhœa supervened May 3 and has continued, and she has grown rapidly worse, with œdema of feet, and great debility. Will probably live only a couple of weeks longer.

Case 7.—Miss M. D., æt. 36. Been ill three years. First ill with pneumonia. Entered hospital April 27, quite emaciated, weak, but able to be up and about considerably. Considerable cough and expectoration, with myriads of bacilli and pus. Pulse range from 100 to 120, temperature 99° to 102°, respirations 22 to 28. Nocturnal sweating, and chill about every third day—not severe however. Poor appetite, and occasional soreness of throat, and hoarseness. Auscultation showed mucous and gurgling râles all over right lung with loss of vesicular murmur or bronchial respiration, and a large cavity about middle; also mucous râles over "upper left." Hot air inhalations as often as could be borne and as frequent—averaging three times a day probably—with temperature from 110° to 140°. The effects were good except that once in a while she felt too feeble to take them. Did not complain of burning or pain, she has gained a little. There has been diminution of moist sounds in lungs; no change in pulse rate or temperature, no more emaciation or loss of strength.

Case 8.—Æt. 26. Entered hospital May 6. Family history good. Contracted an acute pneumonia six years ago since which time has never been well. Has coughed more or less ever since. Was in South (Tennessee) last winter. Never had hemoptysis. Not very much emaciated but has sense of great weakness. Bacilli in sputum. Auscultation showed bronchial respiration over upper and middle lobes of right lung, and bronchophony in patches. Mucous and sibilant râles over both upper fronts. No evidence of cavities. Pulse rate 100 to 120, temperature 97° to 104°. Began inhalations of hot air May 7. Averaged three séances daily, of fifteen to twenty-five minutes duration with temperature at 110° to 120° (never could bear them higher than 120°). After fourteen days was obliged to stop the hot air on account of exhaustion and loss of appetite apparently produced. Have renewed the inhalations.

I have five cases now under this treatment, in one of which (a very interesting one) improvement seems to follow. We have found it impossible to apply the method for such lengths of time as reported to have been done in Germany; patients *would* or *could* not do it. We have found, however, that healthy persons and those with only chronic bronchial catarrh can bear greater heat of air and for a longer time at a sitting than true phthisical cases. We always close the nasal passage during an inhalation.

We shall continue its use for we feel that it has not yet been thoroughly tested either in this country or Europe.

STOMACH REST AND CLEANLINESS.

Read in the Section of the Practice of Medicine, Materia Medica and Physiology, at the Fortieth Annual Meeting of the American Medical Association, June, 1889.

BY MARY E. BALDWIN, M.D.,
OF NEWPORT, R. I.

Mrs. B. W., aged 52, a widow eight months, came under my observation February 17 of the present year. She was one of five children of good physical parentage, except that the mother had much liver trouble. Mother, one sister and one brother very stout, and one sister has had an immense amount of bilious disturbance for twenty-eight years, with suffering so severe as to suggest bilious colic. Came first soon after first delivery. Infancy and childhood were not attended by any serious sickness, and was not in any sense a delicate child, although she had many "worm" attacks. Was always fond of candy, cake and sweets. Since first pregnancy, subject to bilious turns with severe attacks of pain, which have usually resisted all home treatment and have been relieved by hypodermics. Although morphine was frequently resorted to, the habit never was formed, and it has not been used the past two years. Since early remembrance has had returns of diarrhœa, but never vomited blood, nor passed it by rectum. Married at 18, and soon grew fleshy. Had four children; youngest is 21. Menopause occurred at 50, without any special symptoms, and a year later, eight months before first seen, the shock of her husband's sudden death caused a severe flooding, with no further return. Some fifteen years ago had a tumor—probably urticaria; took medicine for it about five years ago. It disappeared, and patient thinks there has not been a truly well day since that time. Mrs. B. W.'s frame is large and well proportioned; height, 6 feet, and 275 pounds was a usual weight until she began to lose flesh after her husband's death, and the loss continued until the middle of February, when it had fallen to 132. She was a bright, cheerful, and, although so stout, an active woman, until the past five years, at which time she seemed to lose her accustomed vim, often spit up food, and experienced much discomfort from gas in the stomach and bowels. Especially the last two years this train of symptoms grew more marked until the precipitation of actual wretchedness by the shock of bereavement and the exhaustion of a flooding. The eight months previous to the commencement of my knowledge of this case had been attended by the loss of more than half the usual weight. A good appetite stimulated the taking of food, which often came up as soon as swallowed, even causing her to leave the table seven or eight times during a meal. Sometimes food came up sour, again bitter, and usually mixed with a large proportion of slime and phlegm. Never a large amount vomited at one time, and always without retching. Thirst also demanded drink, which gave little relief.

Bowels usually regular, but in January had an evacuation after going four weeks without one. Later went three weeks without any action, and again ten days; each time the attendant suffering was extreme. Urine dark and thick; sometimes could retain, again had to pass frequently. In region of stomach no habitual pain or soreness to touch, but a weary, heavy discomfort and a crowding and distress following food as it went down. Solids and fluids caused equal discomfort, except that hot tea was readily swallowed, but hot water quite certainly induced vomiting. Patient said she could retain ice cream and Valentine's beef with ice, but that milk had not been tolerated in any form. Sometimes distress and gas relieved by soda, and at times ice water stim-

-ulated the rejection of gas, with relief. Pyrosis was so abundant, especially at night, that towels were required to absorb the fluid as it came from the mouth and nose.

Sleeps very little until midnight, and after that only in short snatches. Some nights a cough all night, again none, and never in the daytime; no expectoration. Cramps in legs distressing at night, especially in right one. No headache. Loss of interest, flesh, spirit and strength reached such a degree that she was scarcely recognized by friends, and tears came as readily as in former years the brave and cheerful words had done.

Four months ago the general aspect was one of great weariness and weakness, the loss of adipose tissue leaving as shriveled an appearance of skin as is often seen in advanced age with emaciation. Teeth were in good condition, tongue broad and gray, and breath not especially offensive. The throat showed no general thickening of the mucous membrane, but was relaxed, with enlarged follicles. Heart and lungs gave no signs beyond those attendant upon the general depreciated condition. Was unable to detect an enlarged liver or dilated stomach, or any abnormal condition of the urine.

Diagnosed catarrh, gastro-duodenal and œsophageal, and explained the absence of dilatation by the ease and frequency of the stomach's rejecting its contents. Reasoned that cleansing and resting this demoralized stomach might prove of service, cleansing to include strict supervision of what was taken into the stomach, as to quality, quantity and intervals, as well as the removal, at stated times, of the undigested food remaining, with the results of disordered secretion, etc.; rest to include giving the stomach a minimum of actual work, and also preventing reflex weariness by not talking, using arms, or especially by avoiding the dwelling upon the recent affliction, and by rising above the tears and securing as many hours of sleep as possible in the twenty-four. Very fortunately Mrs. B. W. was able to change, for about six weeks, her usual home and surroundings for the home of an intimate friend, who is a most cheerful, devoted and sensible woman, thus securing a most important aid.

At first the stomach tube removed each morning before taking food the contents of the stomach, which consisted largely of mucus as clear and tenacious as unbeaten egg albumen. Twice a day toasted bread, Graham, wafers, rare steak, and the white of coddled eggs formed a list from which to choose in very moderate amounts. The first food of the day by the stomach was not taken until noon, this rest being made possible by giving a nutrient enema in the early morning. A second enema in the afternoon with bromide, and a third at bedtime, added further relief to the stomach and secured sleep. The one in the afternoon was not long continued, but the one morning and night has been regularly given to the present time.

After eleven days of daily cleansing it was omitted every other day and some food has been taken at breakfast time whenever the washing has not been indicated. The interval to the present time has not exceeded one week, but has never again been shortened to twenty-four hours.

The diet list has been enlarged from time to time to include tea, chicken, the whole egg, ham, chipped beef, fish, oysters, lobster, freshly boiled potatoes, spinach, asparagus, strawberries and Graham gems. Ice-cream has been indulged in two or three times only to be regretted, as the curds and odor of fermentation at the next washing would testify, and thus far no milk has been allowed, as a few trials gave no encouragement for a repetition. Any new article of food has been first taken at the last meal before a washing, so as to know if any was left undigested.

This patient's progress has been very satisfactory to the present date. Any time of increase of any of the unpleasant symptoms has been directly traceable to the emotions or to tire of mind or body—once by sewing with very long threads, once by over-walking, once by talking over bereavement with a friend not seen for some time.

Now the countenance is bright and cheerful, color good, and 8 lbs. of flesh have been gained. Ordinary walking, driving, church going and lighter housework give no inconvenience. The abnormal thirst and appetite disappeared the first ten days of treatment, and a regular daily evacuation of the bowels has not been missed since that time. Not a mouthful of food has been thrown up since the first washing, but some days "froth" comes up—when measured not to exceed ½ oz. in twenty-four hours.

Nights have been uniformly given up to sleep, and each afternooon a rest is taken—usually a sleep.

Very little medicine has been given. Some digestive aids, bromide in night enema, soda and rhubarb at bedtime, 10 grs. of bismuth after the washing, and small doses of calomel and soda repeated at intervals about comprise the sum total.

Have not been able to make any satisfactory differential acid tests, and had hoped to discover some way of causing milk to be tolerated; still hope to do so as a valuable study for the large class of children and adults that cannot take it. The œsophageal crowding is quite relieved while a plaster can be worn, but it soon causes so much eruption of an eczematous character as to demand removal by the itching and annoyance. This crowding is really the only annoying symptom at this time.

I am not going to give a wearisome detail of further cases, as this one embodies several important points which would only thus be repeated. The matter of the so-called "worms attacks" in children, with the ever recurring days of fever, vomiting, heavy tongue and foul breath, may receive a moment. The intervals are usually preparatory stages, with the sweets between meals, for the cleanliness and rest which a well stomach says in no doubtful way that it must have. Medicine is given, the gastro intestinal tract is freed from the accumulation, and the weary round is again entered upon so soon as pampering can tempt. The child may often be reasoned with, hired or coaxed to leave out the dear "plain cookies," ginger snaps, sugared bread, etc., which have ruined his appetite for meals or for proper food between meals. Not many weeks of experience are needed to convince a child of 6 or 8 years that bread and butter are better with an appetite than are cakes without one. I have known so many children improve in color, strength and flesh by this simple means, cheating the months and years out of "worms spells," that I believe an early resort to this plan in the childhood of the patient reported might have prevented the development of that "natural" biliousness which caused so many attacks of gastro-duodenal catarrh after eighteen years of life.

Recently I have observed some aggravated cases of Riggs' disease, and I beg to point out that its accompanying vile and characteristic breath may well be considered a warning of danger; a warning not only to be considered on account of the vitiated air thus presented for inhalation, but also on account of the actual swallowing of the products of fermentation, by which means the morning meal is presented to a stomach ready to vitiate any wholesome nourishment. It is like the unwashed milk-can of the previous day.

THE IMPORTANCE OF EDUCATING OUR YOUTH IN THE PRINCIPLES OF HYGIENE.

Read in the Section of State Medicine at the Fortieth Annual Meeting of the American Medical Association, June, 1889.

BY LEWIS P. BUSH, M.D.,
OF WILMINGTON, DEL.

One of the greatest difficulties in the way of the successful working of our State Boards of Health, is the want of confidence of the people in the statements which we bring before them of the importance of hygienic subjects. It is so difficult for the people at large to appreciate the truth that danger to health and life are strown thickly around them; that the air they breathe, and the water they drink, which was inhaled and drank by their ancestors, who they believed "died when their time came," and not before, may be deleterious to them; and that many of the diseases which afflict them, and the deaths which remove from them the dearest objects on earth, are not a visitation of Providence, which they could not obviate by any means in their power.

When a tree falls upon one of the family, or a neighbor, or the mangled body of a friend or relative is carried home from beneath the wheels of a railroad car, it is easy for them to appreciate both cause and effect. But when they are told that the clear and sweet water which they draw from their well, or the effluvium from a mass of decaying vegetable matter, or from an old stagnant pond, is gradually introducing into their systems a malign agent which will sooner or later induce disease, and will surely reduce the term of their life, they retreat within their old covert, declaring that they can neither see nor feel the force of our protestations; and cast aside the pamphlet as containing the lucubrations of one who has made a hobby of the subject, and declare or resolve that they are not to be scared or humbugged by such fanciful ideas. Is not this true as a rule? I am sure it is true; and that it is occurring every day in every part of our country. People have been so long impressed with the notion that death is a visitation from God, and that He sends their diseases among them, instead of referring them to their own ignorance or carelessness, that it is no easy matter to convince them that they are in error, that these new notions are worthy of their most serious consideration, and that they are second only to the care of the health and life of their soul. Every one who has given thought to the subject knows how difficult it is to root out old prejudices existing among the people, and to implant new and opposite views; and that this is the reason why we are so subject to be disregarded in our efforts to do them good.

What then shall we do? for it must be apparent to all interested in our State Boards of Health that we progress slowly in our efforts to indoctrinate the people with hygienic truths. Even a large part of our physicians believe that it is not *their* mission to prevent, but to cure, disease; and they give hygiene only a passing look, and the people think none the worse of them for it. It seems to me that we must begin at the beginning; we must give the subject of health a much more important place in our public and private schools; early implanting in the minds of the children the knowledge of the value of health, and of the means of preserving it, by putting into their hands such books as will bring before them not merely the anatomy and physiology of the human system, but still more, the principles which are requisite to preserve the vigor of mind and body, and which will warn them against the deleterious agencies which lie concealed both in air and water, and which are the cause of more deaths than all other occult agencies together.

As far as I know, this subject has not attracted as much attention in our health associations as it deserves; and from various instances which have come under my observation, I have been led to present these thoughts for the consideration of this Section.

There must be a widely disseminated conviction of the truths upon which our Boards of Health are founded before we can hope to elevate the status of the health of our communities to the point which we desire. It must be strong enough to supplant the prejudices above alluded to, which have an abiding presence in the minds of the people; and this can only be effectually done by the means here suggested. I do not say that our Boards of Health have been failures; on the contrary, they have been of great and inestimable value in educating the better part of our communities, and are gradually taking a deeper hold on their conscientiousness. So we must labor on, not relaxing anything already gained, as in all our efforts to bring up the people to a higher plane in any improvement of their condition, we constantly find great cause for discouragement where we expected sympathy and assistance. We need only to refer to the retrograde movement in Boston, when the efficient State Board of Health was disbanded, and the venerable Dr. Bowditch, with all his valuable experience in hygienic matters, was supplanted, and the efficiency of the system embarrassed by that which was substituted.

The wisdom of our legislators does not always extend into the invisible; they can forecast a loss of political influence and power—or they think they can; though even here in their favorite haunts their wisdom sometimes proves to be folly—so when everything around seems quiet, and no pestilence threatens immediately, and death seems to have fled to some other sphere, they demur when you ask them to assist in executing plans for the prevention of disease, because they can't see the immediate propriety of such action. The enactment of a law on this subject brings no votes, and the rejection of it loses none; and hence they easily postpone the matter indefinitely. Why? Because constituents care about as little for the law as do their representatives. If the people were as well educated and impressed with the inestimable value of our subject as they should be, or as they are in regard to the value of their business affairs, there would be a different set of men, and a different course of legislation; and this subject, instead of being the last to be thought of, would take its proper place on the list of the legislative bills.

It is not my wish to advance any opinion upon the merits or demerits of the various books which have been produced as proper for the instruction in hygiene in our schools, except in a general way.

When the subject of physiology was first introduced into our higher schools, it was mainly confined to the scientific exposition of the structure and functions of the human body; leaving the application of the principles there set forth to the discrimination of the pupil, as circumstances might arise in the future. This was well as far as it went, and it was all that the times demanded; but in the present progressive stage of hygienic knowledge, it has become evident that this kind of exposition is insufficient. That class of books ought, therefore, to be discarded, and others possessing the proper requirements be substituted. There are such to be obtained, which set forth the laws of health, and which should be commended to school boards, should be heartily appreciated by the teacher, and should have no secondary place in the curriculum of studies. When this takes place, we may expect the next generation to be ready to uphold the hands of those who are endeavoring to forward this beneficent movement.

In advancing this cause there is no class of men who have more influence than physicians, and hence whenever that influence can be brought to bear upon our school directors, it is plainly our duty to exert it in whatever way seems most practicable for accomplishing the desired purpose.

A CASE OF PAINFUL SUBCUTANEOUS NEUROMA (NEURO-FIBROMA).

Read in the Section of Dermatology and Syphilography, at the Fortieth Annual Meeting of the American Medical Association, June, 1889

BY J. ABBOTT CANTRELL, M.D.,
OF PHILADELPHIA.

Jack C., 29 years of age, was born, and has always lived, in New Jersey. He is a farmer by occupation, although obliged to retire temporarily at times, on account of the distress in the arms. His previous health was always excellent, and with the exception of a sister, his family have never presented a similar disease.

He noticed, for the first time, about fourteen years ago, a small round nodule on the left arm, accompanied with intolerable itching, but without pain. This nodule increased in size, slowly but steadily, reaching its present dimensions in about four years, by which time there four new and smaller lesions in the same vicinity. In eight years after the appearance of the first nodule a solitary lesion was noticed on the right arm correspondingly, which in four years was accompanied by five others. The man does not know exactly when the pain first began, but believes it was between four and five years after the appearance of the first tubercle.

This man presented himself for treatment at the clinic in April, 1889, showing the lesions on both arms about midway between the tip of the shoulder and a point corresponding to the insertion of the deltoid muscle, being grouped on each arm, those on the left arm being five in number, the larger occupying the centre of the group, and being the size of a pea, while the others surrounding it were about the size of a pin's head.

Those on the right arm were similar in size, but there were five surrounding the central figure. The lesions are separated, one from the other, by about 5 or 6 lines. They are firmly situated in the skin and movable only with it. They certainly must run down into the subcutaneous tissue. They are elevated between 2 and 5 lines above the surrounding skin; the skin covering them is tightly drawn, being very smooth and shining brightly. The epithelium seems intact. The skin over the top of the larger lesions is of a yellowish pink, while at the base it is almost a purple; the smaller lesions are normal at the base but yellowish at the summit. All the lesions are perfectly round, the larger one looking as if a pea had been placed under the cuticle and was holding it out beyond the surrounding skin.

Surrounding the lesions the skin looked entirely healthy, there not being a single dilated capillary visible, as might have been expected.

At the appearance, and during the continuance of the pains, there was no change of color, although the part became warmer than usual, remaining so for a short time after its subsidence. Cold and heat, from what I could learn, did not affect him in the least, but if slightly touched a great amount of pain was experienced. There is surely a deep connection with a branch of the brachial plexus.

The pains, for which trouble he applied for treatment, were of a paroxysmal nature, and constituted the whole distress. They began by appearing slowly about four years after the appearance of the first tubercle and got worse as the disease progressed. I did not see him in any of the paroxysms, but from what he says I could readily imagine the greatest torture. The pains at times resembled an aching tooth, beginning with a throbbing sensation, and getting gradually worse, at last giving several great jumps almost causing him to fall to the floor. These pains lasted from fifteen minutes to one-half hour, but were quite frequent during the day, and always worse at night, which only happened once or twice a week. The friction of his wearing apparel kept up a continual pain throughout the day, and at night the bedclothes could not be borne on the arms. When suffering from the worst pains he is oblivious to what is transpiring around him. If perchance the lesions be violently struck, or the arm be given a sudden jerk, the spot feels as if a sharp pointed instrument had been inserted, almost causing syncope, while the pain would last several hours; in fact, sometimes lasting all through the day—causing him to be constantly on the move and trying to forget it by the best possible means. If the lesions are handled slightly, as when examined, there is considerable pain.

He says he dislikes to go to bed on account of not being able to lie on either side, and fearing to lie on his back, lest in a moment of restlessness he may turn over on either arm, and be awakened suddenly as if he had been struck a sudden blow, so on account of this, when the pains were at their worst he occupied a large armchair and a footstool.

The day preceding a storm he feels very restless and uncomfortable, but on the appearance of the storm he is no worse. He feels very comfortable in settled weather, be it warm or cold.

In a careful search of the literature of the subject, I was only able to find four cases that present any similarity to the case of to-day—those of Duhring, Kosinski, John Ashhurst, Jr. and Jonathan Hutchinson, Jr. Most of the other and previous cases I feel are examples of the "painful subcutaneous tubercle."

Duhring's case, a man 70 years of age, first noticed the disease ten years previously; it occupied the left scapular region, shoulder, and the outer side of the left arm as far down as the elbow, completely covering these parts.

Kosinski observed it in a man 30 years of age, who noticed it for the first time when 16 years of age, when it occupied the posterior and outer side of the right thigh, as far down as the lower third, and a portion of the buttock. There were as many as a hundred lesions.

In 1883 John Ashhurst, Jr., amputated the thigh between the middle and lower third. The flaps sloughing, a reamputation was necessary. Within a year, a small lump, tender to the touch, appeared in the skin, posteriorly and a little to the outer side of the stump.

Jonathan Hutchinson, Jr., reports a neuroma of the parotid in a girl 20 years of age.

I had hoped to-day to show microscopical sections of my case, but the man proving obstinate, would not allow me the privilege, so I will make the best of the bargain by giving the microscopical reports of the other cases, and show by them the fibroid nature of all these cases.

That of Duhring showed the "corium to be infiltrated with a new connective growth, which was firm in structure. The tissue, beneath and in the mass of the specimen, consisted of a solid, resistant-looking connective tissue, irregularly developed and uneven in arrangement. The bulk of the tissue was old in appearance and fitted together, the new cell elements being entirely wanting, the connective tissue fibrils being closely packed in places, forming wave-like bands. There were also numerous free fibrils of elastic tissue scattered here and there, and there were no nerve trunks or branches found in the mass."

In Kosinski's case, "the mass showed a consistence of gray nerve fibrils with a great quantity of a dense fibrous tissue, interspersed with some connective tissue."

Ashhurst found "interiorly in the tumor a somewhat elastic, rather dense-looking growth of whitish color, over which passed yellowish fibres, probably strands of the scaled nerve. Microscopically the interior showed an entire absence of nervous elements and a section exhibited fat cells, abundant fibrous tissue, some spindle cells and numerous free nuclei near the enlarged and dilated blood-vessels."

Hutchinson came to the conclusion, after a very exhaustive examination, that his case was undoubtedly of a fibroid nature, while it consisted of connective and a quantity of fibrous tissues.

With a summary of these four cases, all of which showed in their microscopical examinations a structure consisting of fibrous and connective tissues, resembling those of the human body, also all sections of heretofore examined fibromatous tumors, I cannot but feel that to place them with the fibromata would certainly be to place them where they belong—calling them neuro-fibromata.

A CASE OF ACUTE RHEUMATIC LARYNGITIS OF GONORRHŒAL ORIGIN.

Read in the Section of Laryngology and Otology, at the Fortieth Annual Meeting of the American Medical Cssociation, June, 1889.

BY W. K. SIMPSON, M.D.,
OF NEW YORK.

I present the following history on account of the apparent rarity of the case, and in so doing hope to add somewhat to the meagre literature of the subject. In the perusal of recent literature, and the reports of various throat clinics, and from inquiry among medical friends, I have been unable to find any reference to a similar case, thus convincing me that it is in some respects unique, and that the involvement of the larynx in acute gonorrhœal rheumatism is an extremely rare occurrence.

Sigimund H., æt. 23, single; Poland; cigarette maker; was first seen by me on February 23, 1888, at which time these notes were taken. He has had three attacks of gonorrhœa, the last one being five weeks ago; there is some urethral discharge at present. Three weeks ago he complained of pain and stiffness in the left knee, which shifted to the right knee, and then to the left hip, rendering locomotion very painful. Three days ago pain and swelling began in the left thumb, extending to the anterior surface of the wrist and back of the hand; and at the present time these parts present the typical swollen appearance of acute rheumatic inflammation.

The throat symptoms began three days ago, in the morning, with painful deglutition; and on the following morning there was a swelling over the lower external portion of the larynx, which swelling, at present, has disappeared. The swelling was very painful on pressure, especially on the right side. In the evening the patient became hoarse, and any attempt at talking was very painful.

Examination of the throat to-day reveals painful deglutition; pain on pressure over the right side of the larynx; almost entire loss of voice; no cough. Internally, both arytenoids are swollen and red, the right one much more than the left, being also slightly œdematous, resembling tubercular laryngitis, and is, along with the right vocal band, immobile on phonation. The whole of the mucous membrane of the interior of the larynx is hyperæmic, the left vocal band being slightly injected, while the right vocal band is swollen and of a deep purple color.

Treatment consisted in placing the patient on sodium salicylate, gr. xv every two hours, and applying a saturated solution of sodium bicarbonate to the wrist-joint.

From Feb. 23 to 28 there was no improvement in the throat symptoms; swelling was increasing and breathing was becoming embarrassed. On Feb. 28 iodide of potash internally was substituted, and on Feb. 29 a blister was applied over the right side of the larynx, which caused improvement in the laryngeal swelling. This improvement continued, and on March 6 the swelling was entirely reduced, and the voice was very much improved; but there was still very little motion of the right arytenoid and right vocal band, and the color of both was still very red.

MEDICAL PROGRESS.

TREATMENT OF ERYSIPELAS BY ANTISEPTICS.—M. **JORISSENNE** finds that in erysipelas the streptococci are so deeply seated that it becomes necessary to employ fatty substances as excipients in order to secure more prolonged contact of the remedies employed. For this purpose lanoline is unsuitable because it increases friction; vaseline prevents absorption; lard increases cutaneous irritation. The reporter therefore employs a mixture of cacao butter and vaseline as a suitable and convenient excipient. The most reliable antiseptic is sublimate, with which the reporter has achieved constant success in the erysipelas of the head occurring in newborn babes and complicating meningitis, as well as in the gangrenous erysipelas affecting the scrotum of old men, and in adults generally.—*Le Bulletin Médical.*

TREATMENT OF GASTRIC NEURASTHENIA.—In the treatment of dilatation of the stomach, according to **DUJARDIN-BEAUMETZ**, there are two principal indications: the one is addressed to the gastro-intestinal disturbances, the other to the condition of the nervous system. To fulfil the first of these indications there are two plans of treatment: the first comprises intestinal antisepinflammation, in which as he believed, on account of imperfect contact, the surfaces were united by a layer of "coagulable lymph." The distinction has been rather generally lost sight of by surgeons, and it has been customary to class all wounds healing *without suppuration* together as cases of union by first intention. PAGET, however, in his "Surgical Pathology," discusses the whole subject very fully, classing the two sets of cases as "immediate union" and "primary adhesion" respectively. Even supposing, what does not seem probable, that wounds which heal by immediate union have escaped contamination, those which heal with inflammatory symptoms present at least equally great difficulties, as it is not easy to see why the process, once initiated, should ever come to an end.

It has been customary to account for such facts as these by the hypothesis, which seems probable enough, that the living tissues have a power of resisting the attacks of microörganisms. This view, satisfactory as far as it goes, is still rather vague, and, granting its correctnees, the *modus operandi* has not, hitherto, been discovered. It must, therefore, be regarded as a welcome addition to our knowledge that recent investigations go to show that the fluids of the body, in their fresh state, not only present an unfavorable soil for some, at least, of the pathogenic organisms, but possess a certain degree of antiseptic power. NUTALL appears to have been the first to discover that fresh blood serum is fatal to many forms of bacteria. His observations have been confirmed and extended by others. It appears that the blood-serum of various animals is deadly, in different degrees, to the anthrax, cholera and typhoid bacilli, but not to the staphylococcus pyogenes aureus,—the most common excitant of suppurative inflammation. This property is lost in time; it is destroyed by heating to a temperature of 55° C. (121 F.), is diminished or abolished by a solution of the red corpuscles, and is due to the albuminoid constituents of the serum.

DR. T. MITCHELL PRUDDEN, in the *Medical Record*, January 25, 1890, gives the results of some experiments of his own, with a synopsis of the literature of the subject. His experiments, made with cultures of the typhoid bacillus and staphylococcus pyogenes aureus in the blood of various animals confirmed the results of previous investigators mentioned above. In addition he found that similar properties were shown by fresh ascitic and hydrocele fluids; the liquor amnii of the pig, on the contrary, proved to be an excellent culture medium for the typhoid bacillus.

The staphylococcus in Dr. Prudden's experiments, seemed to be affected in much the same way by the ascitic and hydrocele fluids as by distilled water. In most cases the numbers were diminished to a certain extent, and the increase, where there was any, was slight. This would seem to show that such fluids, although not fatal to the pus-producing organism, are not, in the fresh state, as has heretofore been supposed, favorable to its growth, and would thus explain the absence of suppuration in wounds in which apposition is so close as to allow union to take place before the exudation has had time to stagnate. So long as the bacteria can be kept inactive, it is probably of little consequence whether they are living or dead.

THE ANATOMY BILL IN THE DISTRICT OF COLUMBIA.

It is a matter of surprise that a body of men as intelligent and as worthy of respect as is the American Congress should, until this hour, make demands of the medical profession, the fulfilment of which involves the commission of crime.

Over the signature of the HON. WM. C. ENDICOTT, Secretary of War, we have as one of the requirements, on the part of persons desirous of entering the Medical Corps of the U. S. Army, "*the performance of surgical operations upon the cadaver.*"

Over that of the HON. WILLIAM C. WHITNEY, Secretary of the Navy, one of the prerequisites to admission to the Naval Medical Corps is that of "*surgical operations upon the cadaver.*"

SUPERVISING SURGEON-GENERAL HAMILTON of the U. S. Marine-Hospital Service in this connection says: "I would not consider any man qualified to practice medicine or surgery, who has not dissected the usual number of bodies required by the regulations of our medical colleges." And yet, to-day, in the District of Columbia, to provide the material necessary for such demonstrations is a felony. Such inconsistency needs only to be properly brought to the consideration of that intelligent body, to secure from Congress the legislation which justice demands.

In the language of PROFESSOR A. F. A. KING, Dean of the Medical Department of Columbian University, "the experience for centuries in Europe and many years of experience in a considerable number of the States of the Union, have amply demonstrated that suitable legislation, such as is contemplated in the pending bill, will meet the required demands."

In at least sixteen of the United States, laws have been enacted, providing for the delivery of unclaimed dead bodies to the medical colleges for dissection, and yet in the District of Columbia, there is no legal sanction for the study of anatomy.

It is obvious that if in the metropolis of the nation the study of medicine is to be encouraged, such legislation as the Bill now before Congress contemplates must be had. Not only is it needed, that justice to the medical profession may be done, but because the most sacred interests of the people are still more involved.

There is no disguising the fact that, in the absence of statutory law, every grave within the District is imperiled, while the passage of this Bill will grant to every grave protection. We sincerely hope that the Bill will soon become a law.

WHERE IGNORANCE IS BLISS, 'TIS FOLLY TO BE WISE.

Is this the logical conclusion which we are compelled to receive as the deliberate deliverance of the august Senate of the Empire State, in this year of our Lord, 1890?

Is ignorance at a premium in New York? In the survival of the fittest does illiteracy need protection? Evidently the promoters of this repeal have an eye to revenue, and it may be that this is a tariff, or rather "free trade," for revenue only.

The Act of 1889 requires intending medical students to satisfy examiners under the authority of the State Regents, of their preliminary education, in *Arithmetic*, *Grammar*, *Geography*, *Orthography*, *American History*, *English Composition*, and the elements of *Natural Philosophy*. And could anything be more reasonable than that a medical intendent should be thus far qualified to enter upon the study of his profession?

Now comes the pronouncement of this sage body of Legislators, that this amount of preliminary education is too much to be required of any man, and they propose its repeal. We deeply sympathize with those noble men of the great State of New York, in that their efforts through many years to promote and to elevate the standard of medicine in that State, should meet with such result, and that they should suffer the humiliation which the rescinding of the present law necessitates. It is to be hoped that in the Lower-House better counsels will prevail, and that the Governor of the State will not be called upon to sign a bill rescinding the very Act which by his signature became operative two years ago. We sincerely hope that in the near future the promoters of this retrograde movement may be clearly pointed out, and the animus of their action be laid bare.

Let the other States move steadily and strongly on in the grand work of advancing the standard of medical education, and we have faith to believe that the good sense of her people will hold that grand old State, in which, hitherto, it was our pride to have been born, firmly to the purpose of medical reform, and that in the end in nothing will she be found behind the chiefest.

EDITORIAL NOTES.

HOME.

PROF. GEORGE H. ROHÉ has been appointed to the honorable and responsible position of Commissioner of Health for the City of Baltimore. He will bring to the accomplishment of his work experience, culture, and rare executive power. The city is to be congratulated for this selection.

PRECAUTIONS AGAINST FIRE IN HOSPITALS.—The disastrous conflagration which befell the Presbyterian Hospital in New York, has had this compensation that it has stimulated the authorities of some of the older hospitals to an inspection of their fire-escape provisions. A systematic fire-drill has been put in practice in the case of some of them, and other precautions have been devised to prevent a loss of life in the emergency of a fire. The construction of not a few of these institutions has been faulty from their inception, from an apparent ignoring of the possibility of such an accident.

ADDRESSES OF THE SECRETARIES.—As inquiries are frequently made for the names and addresses of Secretaries of various Sections; we again publish the list:

Practice of Medicine.—Dr. H. McColl, Lapeer, Mich.

Surgery and Anatomy.—Dr. Jno. Blair Deaver, 120 South Eighteenth street, Philadelphia, Pa.

Obstetrics and Diseases of Women.—Dr. Joseph Hoffman, 126 W. Diamond St., Philadelphia, Pa.

State Medicine.—Dr. S. Bascom, Salt Lake City, Utah.

Ophthalmology.—Dr. E. J. Gardiner, 70 Monroe street, Chicago, Ill.

Laryngology and Otology.—Dr. Frank H. Potter, Buffalo, N. Y.

Diseases of Children.—Dr. E. F. Brush, Mount Vernon, N. Y.

Medical Jurisprudence.—Dr. T. D. Crothers, Hartford, Conn.

Dermatology and Syphilography.—Dr. Wm. T. Corlett, Cleveland, Ohio.

Oral and Dental Surgery.—Dr. E. S. Talbot, 125 State street, Chicago, Ill."

THE oldest surviving medical graduate of the University of Pennsylvania is said, by the *Medical News*, to be Dr. James Kitchen, of Philadelphia. He was graduated in the class of 1822, when he was 22 years of age. He is now in his 90th year, and has been sixty-eight years in the practice of his profession.

THE THIRTY-THIRD ANNUAL MEETING OF THE MEDICAL ASSOCIATION OF MISSOURI will be held at Excelsior Springs, Clay Co. Mo., May 6, 7, and 8, 1890. L. I. Mathews, President; I. C. Mulhall and Joseph Sharp, Secretaries.

The Committee on Arrangements confidently expects to get reduced railroad rates from all points in Missouri and Eastern Kansas, and will publish the particulars in the April numbers of the medical journals of the State, and THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION. "The Elms" will charge $2 a day, and can entertain four hundred guests. Rooms in cottages can also be had at reasonable rates. Although the meeting of the American Medical Association at Nashville, May 20, necessitated the change of time to May 6, 7 and 8, 1890, the meeting at Excelsior Springs promises to be one of the pleasantest and most profitable ever held by the Association. One admirable feature will be that their wives and families may accompany the members and share in their amusement and recreation.

THE SOUTH-WESTERN OHIO MEDICAL SOCIETY under the Presidency of Dr. Read L. Bell, will hold its semi-annual meeting at Springfield, O., on Thursday and Friday, April 17 and 18. A goodly number of excellent papers are announced, and the sessions promise to be of marked interest. All regular physicians in that section of the State are cordially invited.

NATIONAL ASSOCIATION OF RAILWAY SURGEONS.—We desire again to call attention to the fact that this Association will hold its next annual meeting in Kansas City, Mo., on May 1, and will be in session three days. The meeting promises to be one of special interest, and a full attendance is anticipated. Dr. J. H. Duncan, of Kansas City is Chairman of the Committee of Arrangements.

STATE MEDICAL SOCIETY OF ARKANSAS.—The Fifteenth Annual Meeting will be held at Little Rock, Ark., Wednesday, Thursday and Friday, May 14, 15, and 16, 1890. The preliminary circular with its lists of Committees is published, and a meeting of medical interest is anticipated. The President is Dr. Zaphney Orto, of Pine Bluff. The Secretary is Dr. L. P. Gibson, of Little Rock.

MEETINGS OF STATE MEDICAL SOCIETIES.—The annual meetings of State Medical Societies to be held during the month of April are announced as follows:

Alabama, Birmingham, April 8; Florida, Ocala, April 8; Tennessee, Memphis, April 8; California, Los Angeles, April 15; Georgia, Brunswick, April 16; Iowa, Des Moines, April 16; Mississippi, Jackson, April 21; Maryland, Baltimore, April 22; Texas, Fort Worth, April 22; South Carolina, Laurens, April 30.

Those to be held during the month of May are as follows:

Illinois, Chicago, May 6; Kansas, Salina, May 13; Louisiana, Baton Rouge, May 13; Nebraska, Beatrice, May 13; Arkansas, Little Rock, May 14; Indiana, Indianapolis, May 14; Kentucky, Henderson, May 14; Washington, Spokane Falls, May 14; Michigan, Grand Rapids, May 20; Missouri, Excelsior Springs, May 20; North Carolina, Oxford, May 27; Connecticut, New Haven, May 28.

TOPICS OF THE WEEK.

REPEAL BY THE NEW YORK SENATE OF THE BILL REQUIRING PRELIMINARY EDUCATION OF MEDICAL STUDENTS.

The following from the pen of a distinguished member of another profession, Hon. St. Clair McKelway, recently a guest of the New York State Medical Society at Albany and then, as on other occasions, an outspoken advocate of higher medicine, deserves the serious consideration of every member of the profession of medicine in the United States, especially on the eve of the annual meeting of its greatest representative body, the American Medical Association, which may well make it its business to inquire how far the allegation is true that medical schools are themselves the instigators of the repeal of the Act requiring the examination of intending medical students as to their fitness to undertake the study of a profound science like medicine, before that Act has been a year in force:

A BILL TO ALLY ILLITERACY AND MEDICINE.

A bill has lately passed the State Senate to repeal the Act of July 13, 1889, requiring intending medical students, in advance of their entrance upon their medical studies, to undergo the examination in academic studies conducted by the State Board of Regents. Without such a law there would be few or no restrictions upon anyone becoming or trying to become a physician. All that would be necessary would be attendance upon a lecturing course or two and the securing of a diploma of graduation from medical colleges, which have a money interest in fees in corraling and passing as many students as possible. The law which it is proposed to repeal requires a fair degree of elementary knowledge of intending medical students. It creates a standard for entrance into the studies of the profession, and it bars from entrance into the profession such as cannot conform to the standard. It is a partial protection of the public from medical ignorance, graduated incompetency and licensed quackery. The motive of the Act was undoubtedly excellent. In actual operation for less than a year, the law has certainly produced no results to bring it into condemnation, and has probably not produced a sufficient number of results to determine its full capacity for good. Less than a year is too short a time for an experiment in statutes to be summed favorably or unfavorably. It should have a longer life to enable final judgment intelligently to be passed upon it. Any allegation, therefore, that the law has been a failure, or that it has yet been a great success, would be unfounded because premature.

No one, however, need be at a loss to explain why a bill repealing it has passed the Senate. The law interferes with the revenues of the fee schools, ambitiously known as medical colleges. It tends to check the number of ignorant and incompetent persons who desire to become or be called doctors. It correspondingly threatens the loss of tuition and graduation fees to such fee schools. It creates in them an interest for the repeal of the law, irrespective of the benefit which an improved standard of knowledge and culture among students for medical degrees would confer upon the community. A banded pecuniary interest, directly contrary to the safety and welfare of society, and moved in the name of the schools of a profession which insists on being called a learned profession, has thus been able to carry a repeal of this measure through the Senate of the State and to send the repeal bill to the State Assembly.

The repeal bill is the first step backward which the State of New York or any other State has ever taken in any reform which had been once established, whether Civil Service Reform, Prison Reform, Charities Reform, Ballot Reform, Canal Reform, Labor Reform or any other reform of a public character. Should the Assembly and the Governor concur in the repeal of this measure of medical educational reform, the instance would be as exceptional as it would be signal in the history of remedical legislation in the history of any civilized or presumably civilized Government of men upon the face of the earth. It is hard to believe that the repeal bill can pass the Assembly. The attention of the enlightened press has been directed to the action of the State Senate. The comments of such press have been deservedly severe and alarming. Even if the Assembly should pass the measure, the Governor could hardly, with consistency, sign the repeal bill, because he himself signed the law of which the repeal is thus sought. The progress or the arrest of the progress of this reactionary bit of legislation will be watched with much interest by the enlightened citizens of New York.

Two or three things should be borne in mind with regard to this measure; it applies to intending medical students exactly the provisions which have been applied to *intending law students for the last seven years.* The application of these methods to law students did not originate with the Legislature. It originated with the Court of Appeals of the State. That court found that the bar of the State was being invaded by hordes of ignorant and incompetent applicants, who contemplated under the sanctions of law, the hideous moral burglary of breaking into the profession. The Court of Appeals, therefore, erected this barrier to the invasion of the bar by grasping illiteracy and required that the Board of Regents, through its officers, should become the examiners of intending law students. Since that was done the moral, mental and social standard of the bar has been much bettered. Collectively the men who have become lawyers within the last seven years are of a higher intellectual and moral type than any collectively considered that became lawyers within an equal period of time preceding 1883. Neither the bar nor the courts would on any account now consent to the abrogation of the requiremens then established.

The chartered schools of the so-called medical profession, however, in less than a year after the establishment of a like provision for intending medical students, have induced the State Senate to vote the repeal of such a provision. It must be that the State Senate acted without knowledge or intention of the consequences of what they did when they voted the repeal the other day. Such a plea would not be predicable of the State Assembly, for the effect of the action would have been made plain to the members of that body as well as to the Governor, before the one or the other could deal finally with it. The Board of Regents are required by law to become the examiners of intending law students and also of intending medical students. That Board did not seek the honor or the responsibility. Its own ordinary and emergent duties are all that it desired to perform and afforded a sufficient employment for its energies. It, however, accepted the new duties obediently and has sought to carry them out in good faith.

Nor is the Board contending for the retention of these duties, nor is the Board extremely concerned whether they are retained or repealed. The matter is not a Board of Regents one, but a State of New York one, and if the legislative representatives of the people, with the Governor, prefer to throw down the barriers against the admission of ignorance into the medical professon that is their business, and theirs alone. The Board would be relieved of an onerous addition to its ordinary work by such a course and the consequences of the alliance of medicine and surgery with rank illiteracy would rest upon the people of the State and not upon the agents designated to establish and enforce a standard of competency and knowledge.

What ignorance and incompetency have done for the medical profession in America some public events have recently disclosed. The announcement has been made that the medical colleges in Germany, the world's centre of the highest medical education, have refused to accept the diplomas of the medical colleges in the United States, because those diplomas can be commanded by persons whose want of knowledge, fitness and culture is so great that they are utterly unqualified for the trusts of the healing art. This disclosure coincides with the endeavor of representatives of American medical colleges, an endeavor put forth at Albany, to perpetuate the conditions favorable to illiteracy and incompetency in medicine and to negative the efforts of the State to increase the standard of entrance into the profession. The news from Europe was mortifying enough the other day. The news from Albany, justifying the attitude of the German schools toward those of America, is even more mortifying still.—Editorial in *Brooklyn Eagle.*

MEDICAL SOCIETIES.

The next annual meeting of the American Medical Association will be held in Nashville, May 20—23. This gathering is looked forward to with very deep interest, as one that is likely to be of great importance to the entire medical profession of this country; for notwithstanding the echoes that every once in a while tingle in our ears of the shortcomings and supposed failure of purpose of this society, its work, if we take a clear retrospect of the past and contemplate, has been superbly grand. For nearly half a century it has been the great balance-wheel that has regulated in a most efficient manner the standard of professional intercourse among many thousand physicians. Since the date of its organization there has scarcely been a medical society, from the great State organizations to the little company of five or six assembling in an obscure hamlet or village, that has not, as a prerequisite to membership, required a subscription to an endorsement and acceptance of the code of ethics adopted by the American Medical Association. Thousands and thousands of these men never once attended its meetings, but unhesitatingly in this manner did a creditable act, and practically brought honor to themselves, in subscribing to a professional code that bound them to observances of the strictest integrity in their intercourse with one another and with the people among whom they sought a professional career. In these years, when this wonderland was filling up with people, and increasing from little more than a score of millions to a nation of more than sixty millions of inhabitants, the American Medical Association has gone on from year to year as the one only great representative organization of general as well as special practitioners of medicine.

Under its encouraging auspices and stimulation medical education has kept pace with the long and ever-increasing strides made by those who engaged in scientific investigations, until the course of study demanded by nearly all medical colleges will compare most favorably with that given in any land. Carping critics have ever been ready to herald information of the little value of American medical college diplomas, and say they were obtained cheaply. Our very great desire is that all such doctors be required to pass a green-room examination in any medical college in this or any of our prominent cities. The process would produce a change of heart and opinion that would be as lasting as life itself.

Never have we been so favorably impressed with medical college work as this past winter and spring. This has been largely due to the evident careful preparatory education that was manifest among the young men, while personal inquiry revealed the fact that a large majority of the students had pursued a collegiate course of literary and scientific study before taking up their medical studies. The moral, intellectual and professional influence of these young men locating here and there throughout the country cannot be overestimated, and nowhere will their influence be found more potent than in the local medical societies with which they will at once become identified.

Within the past year we have noted the premium at which youth was held in our professional societies. But a few years since young men were given to understand that a retiring modesty in demeanor and utterance was becoming and in harmony with their lack of experience. The present marks a wonderful contrast. Young men are expected to come forward and take a front seat, and are encouraged to write elaborate papers on the results of their investigations and cultures.

Right here we want to say that the young man who hesitates to take up the challenge to show the depth and quality of the gray matter that is beneath his scalp and skull-cap is lost. There is no such thing as a stand-still; he must keep up with the procession, and if he can only get there, the going is very much easier and pleasanter in the front than in the middle or rear rank. The best way in the world to keep out of a crowd is to get right before it.

Spirts in society work don't do half as well as a good pace with staying qualities.

One of the reasons for the marvelous results in the proceedings of the American Medical Association has been its wonderful staying ability. A carefully thought out scheme, patiently but enthusiastically adhered to, is certain in the accomplishment of its purpose.

Unity of purpose with completeness of organization produces an *esprit de corps* that has made some societies famous. This has been the tidal wave that has carried forward the great specialty societies, and given their work a world-wide reputation. Some local organizations just boom right along because of the energy and wisdom of their management.

The physician—be he old or young—who fails to identify himself with a local and State society is the man who is being left. He may not be cognizant of it, but all the same it is a fact; and some day, when circumstances oblige him to rub the sand out of his eyes, the lone and forlorn condition of his existence will strike him with all the glare of a noonday sun in the middle of the heated term. A painful dizziness will sicken him for the time, as he makes a struggling effort to comprehend the links that are missing from his chain of wisdom, that he had supposed were perfectly forged by his old teachers when he sat on the benches.

Sometimes this vertigo may be relieved by a personal union with a live society. This is the only known remedy—the only hope. If you are not a member, make haste and "jine the band."—Editorial, *Cincinnati Lancet-Clinic.*

PRACTICAL NOTES.

WASHING OUT THE BLADDER.

In a recent work by D. J. M. Lavaux, he strongly recommends the practice of washing out the bladder by means of hydrostatic pressure, instead of by the action of the syringe. The plan he adopts is similar to that used in what is well known in this country as the "fountain syringe."

He employs a reservoir fixed at a certain height above the patient, and connected by india-rubber tubing, not with a catheter, but with a metallic tube only three centimeters (about an inch) long. The tube fits into a conical, perforated india-rubber obturator, which is introduced within the urethal orifice. The stream of water is then turned on, and a force sufficient to overcome "the inter-urethral" sphincter being employed, the fluid passes on into the bladder. As soon as a feeling of distension is experienced by the patient, the flow is stopped, and the obturator is removed, and the patient empties the bladder by his own effort. The stream of water is regulated by means of a difference in caliber of the short urethral tubes, of which there are six sizes, the smallest having a channel of one millimeter and a third in diameter, and the largest three millimeters. The force of the water flowing through each of the tubes with reservoir at a given height has been calculated, and one size or another is selected according to the sensibility of the bladder, and the resistance of the sphincter in each case.

This plan of injection is said to be applicable to all kinds of cystitis in both sexes, and to be especially useful in painful forms of the affection, in which the introduction of a catheter causes so much pain and irritation. It is also equally applicable for maintaining an aseptic condition of the urinary passages in cases of operation, the essential condition in any case being that the patient should be able to empty the bladder voluntarily. The solutions used by Dr. Lavaux usually contain boric acid or nitrate of silver, varying in strength according to the case. The use of these medicated solutions is preceded or followed by injection of a solution of cocaine whenever the use of that drug is indicated.

Those of our readers who have never adopted this method of introducing liquids into the bladder will be surprised, on attempting it, to find how much may be accomplished by it, and how much suffering it will spare their patients. Not only is this true, but the method offers much greater freedom from risk of septic infection than any which requires the use of a catheter.—*Med. and Surg. Reporter.*

TREATING INFECTIOUS DISEASES.

M. Letulle proposes that the following regulations should be adopted in hospitals, and by doctors treating infectious diseases. Every patient brought to the hospital suffering from a contagious affection should be immediately placed in an isolated ward, so that all contact between infectious cases and surgical cases should be avoided. The clothing of each patient should be disinfected on his arrival at the hospital. A hot bath and subsequent cleansing with a solution of corrosive sublimate at 1 in 1,000 should be practiced. The hospital furniture should be made of iron and easily taken to pieces, so that it may be disinfected at the departure of each patient. The different rooms should be thoroughly aired and disinfected, and all cases of contagious disease isolated. In his hospital practice the physician should avoid importing or carrying away any morbid germ. He should therefore wear a blouse in the wards and disinfect his clothes daily. The same rules apply to his private practice when he has cases of contagious affections to attend —Paris Corr. *British Medical Journal.*

KAPOSI'S REMEDY FOR WARTS.

Kaposi recommends the treatment of warts by solution of the bichloride of mercury, one part, in flexible collodion, thirty parts. This solution should be applied with a brush once daily to the wart itself, and around its base.

DOMESTIC CORRESPONDENCE.

LETTER FROM NEW YORK.

(FROM OUR OWN CORRESPONDENT.)

New York County Medical Association—The Immateriality of Life and of Disease—A Case of Extra-uterine Pregnancy—The Saturday and Sunday Hospital Collections.

The March Meeting of the New York County Medical Association was one of the largest in the history of the Association. Dr. James R. Leaming, the well-known authority on diseases of the chest, read a philosophical paper on "The Immateriality of Life and of Disease," in which he expressed views on pathology considerably at variance with those commonly accepted at the present day, and somewhat startled his hearers by his skepticism as to the causative agency of morbific microbes.

In speaking of phthisis he stated that in his opinion the bacilli found to be present simply fed on the dead atoms found in the tissues like mold on decaying matter, and that he did not believe they were the cause, but the consequence of the pathological process. In confirmation of his position he referred to his own person. He said that he had been born with an inherited tendency to phthisis, and that at the age of twenty he had had a severe attack of pleuritic trouble, from the consequences of which he was still suffering. For ten years he had attended regularly at the department for diseases of the heart and lungs at the Demilt Dispensary, and that during all this time, with but one interval of three months, he was constantly in the closest contact with tuberculous patients in making his examinations; so that he must inevitably have received quantities of the bacilli into his system. Yet, notwithstanding his exposure here and elsewhere to the so-called germs of the disease, he had been steadily growing out of his natural tendency to phthisis. Furthermore, it had been admitted by the bacteriologists that the bacilli could not be cultivated in a healthy organism.

These views were controverted by Drs. Carroll, Biggs, and others who took part in the discussion of the paper, and the former said that as scientific knowledge increased it was constantly being found that affections of the true pathological nature of which we were formerly entirely ignorant (as, for instance, general paresis) had very definite material lesions; and he had no doubt whatever that every abnormal condition, whether it was classed among functional disorders or not, was accompanied by certain tissue changes, though the latter might be of only a temporary character. A mental impression might be the exciting cause of the trouble, but as a result of this changes in the innervation and vascular supply of certain parts, with consequent disturbances of the system, occurred.

Dr. Biggs, who is favorably known in connection with his scientific work at the Carnegie Laboratory, also said that the more we learned about the pathology of various diseases, the more material they seemed to become. Dr. Leaming, however, seemed to disregard all the advances of the last few years; considering the bacilli merely as concomitant factors and the jeavengus (?), rather than the cause, of disease. At the present time he thought it was hardly worth while to review the argument for the causative agency of these microbes, as everyone was already so familar with the various points. It was now simply a question of the acceptance or rejection of the proof of such causative agency; and Dr. Leaming had not appeared to him to advance any proof of the correctness of his own position. All diseases were recognized now as the result of absorption of energy from external sources, and it seemed conclusive, therefore, that they were material in nature.

At the close of the discussion Dr. A. Palmer Dudley read the report of a case, with specimen, of extra-uterine pregnancy. The patient was 41 years old and had been married twice. By the first husband she had had five children, and since her second marriage she had been pregnant twice, but had miscarried both times. In the latter part of May last her menses should have appeared, but did not, and nausea of a troublesome character supervened. Milk appeared in the breasts, and the latter increased in size. She complained of some pain and sense of heat in the right side, and considered herself pregnant. This condition of affairs continued until July 10, when she had a slight rush of blood from the vagina, and from that date she had each day a slight flow of blood until the 23d. On that morning she felt very miserable and had some pain in the right side, but she kept about the house, and while lifting a small trunk she was suddenly seized with a frightful pain in the right side and back, and was soon in collapse. The nature of the case was not recognized, and she was given stimulants and kept in bed. She continued to suffer great pain and some flow of blood from the vagina, and evidences of localized peritonitis were present. On August 1, while still in bed, she was seized with another attack of intense pain, and in a few moments was in such profound collapse that she was thought to be dying. After a time, however, she rallied. This attack was followed by severe peritonitis, but this also yielded to treatment, and she once more improved in strength.

Dr. Dudley first saw her, in consultation with her family physician, on the 22d of August, and he was able to readily make out what he considered an extra-uterine pregnancy occupying the right half of the pelvis, pushing the uterus towards the left side, and also extending up the right side to midway between the pubes and umbilicus. It was his opinion that the sac had ruptured at the time of the sudden pain and collapse, and that the peritonitis had supervened as a result of rupture. He advised an immediate operation for removal of the sac, but no decidua had been discovered and the mass seemed to merge into the uterus.

The patient was then removed to the hospital, and the day after this she passed a large quantity of membranes. This positively confirmed the diagnosis and decided the question of immediate operation. On August 27 he made an abdominal section sufficiently large to introduce his hand. The omentum and small intestines were found to be one mass of adherent tissues, and were also firmly attached to the abdominal walls, the fundus of the uterus and the bladder. On breaking through these adhesions a considerable quantity of dark clotted blood appeared, and the fœtus was then found to have escaped from the anterior side of the tube and to be lying between the bladder and the cæcum. The placenta was attached to the posterior part of the tube and the broad ligament, and occupied the entire right half of the pelvic cavity. The fœtus was readily removed, but the attempt to remove the placenta was at once attended by a profuse hæmorrhage. This was arrested by long clamp forceps applied to the broad ligament, and the ovary and tube with its placenta were then quickly torn from their attachments in the cul-de-sac and lifted through the incision. Not as much bleeding followed this as was expected. The pedicle was ligated with silk, cut short, touched with pure carbolic acid, and dropped back. The abdominal and pelvic cavities were thoroughly washed out several times with very hot water, and then sponged thoroughly dry. The left ovary and tube were lifted up and inspected and, being found healthy, were dropped back. The abdominal incision was then closed with catgut and silk sutures. No drainage tube was used.

The patient rallied well from the operation. With the exception of an abscess in the abdominal wall to the left of the incision, nothing occurred to mar the progress of her recovery, and at the present time, seven months after the operation, she is perfectly well. Her last menstruation was in the latter part of April. She must have been about three months pregnant when the sac ruptured, and the fœtus had evidently lain in the abdominal cavity nearly a month when removed.

Dr. Dudley said that as far as he was able to judge, the weight of evidence at the present time is in favor of a radical operation as soon as the diagnosis can be made out. The points upon which he said he would invite discussion were these:

1. How early is it possible for us to make a diagnosis of ectopic gestation with any degree of certainty?
2. Is there any positive sign to guide us in making a diagnosis except the appearance of a decidual membrane?
3. When a diagnosis can be made with reasonable certainty should we delay, or operate at once?
4. Should a drainage tube be used after operating?

Dr. Wm. T. Lusk said the points mentioned by Dr. Dudley were the very ones about which obstetric surgeons were most in doubt. He had himself recently reported two cases of laparotomy, but they had both been performed after rupture. In either of them it would have been impossible under ordinary circumstances to make a diagnosis before rupture. It was true that in one of them the patient had experienced some little pain, but it was only such as is often met with in normal pregnancy. He had in the last few years changed his views very considerably on this subject, and he now believed that the number of cases in which we could diagnosticate extra-uterine pregnancy in advance was really very small. The trouble was that formerly we did not at all appreciate how extremely common these cases of extra-uterine pregnancy really are. There were a certain number of them in which the diagnosis was comparatively easy; the fœtus getting down between the folds of the broad ligament. In such cases the use of the Faradic current had proved successful in nearly all the instances in which it had been employed. He did not mean to say, however, that he might not resort to laparotomy in such a case himself. This operation, when performed under favorable circumstances, was not ordinarily attended with any great amount of danger; but unless all the recognized appliances for its successful performance were at hand and unless the operator was accustomed to this kind of work, laparotomy was now just as fatal as it ever was. He did not think it was right, therefore, to decry the use of electricity in such cases; and he had certainly often seen this means of treatment attended with the most favorable results.

In conclusion, Dr. Lusk mentioned a case which he said he believed was of a character not previously reported in this Association or in this city. The patient had been sent to him by Dr. Biggs, and he performed laparotomy. The tumor was in the left iliac fossa, and he dissected it out and found blood clots in the tube. There could be little doubt that this was originally a tubal pregnancy; but it had been converted into a blood-sac. It was apparently a case of so-called tubal abortion.

Dr. Joseph E. Janvrin, President of the New York Obstetrical Society, said that Dr. Dudley's was a secondary operation, performed after he was perfectly aware that rupture of the tube had taken place. As to the questions he had propounded, of all the symptoms which went to make up the diagnosis, expulsion of decidua was the only absolute sign. The diagnosis had, however, been made as early as the seventh or eighth week without the evidence of decidua. Four or five years ago he had reported such a case to the American Gynecological Society, and since then other cases had been reported. We had the usual symptoms of pregnancy, and in addition there was at the side of the uterus a semi-elastic tumor, which was exquisitely tender to the touch, and which felt like a distended tube. The presence of such a tumor, added to the ordinary signs of pregnancy, would, he thought, enable us to make a positive diagnosis of ectopic gestation.

As to the results of the treatment by galvanism, in one case in which he had employed it there had been a partial rupture, and the patient had died in consequence of this not later than the ninth week. When the condition which he had described presented itself, he would not hesitate for a moment to open the abdomen and discover what the actual condition of affairs was. Almost the only thing that could be present, if there was no extra-uterine pregnancy, would be disease of the tube, such as pyosalpinx or hydrosalpinx; and if the latter were found when the abdomen was opened, the operation would be abundantly justified. He was perfectly willing to grant all that had been claimed for galvanism in the past; but, being reasonably sure of our status, what was after all the best thing to do? In his opinion laparotomy was decidedly the better procedure, for there was certainly disease present, if extra-uterine pregnancy did not exist.

As to the use of the drainage tube, this must be left entirely to the surgeon, who would be guided by the existing circumstances in each individual case. In some cases it certainly seemed advisable to use this, at least for a time. One other point. The fact that patients suffering from tubal pregnancy were frequently seized with colicky pains before the end of the second month (which pains might result in collapse), did not necessarily imply rupture of the sac. There might be only slight injury to the latter, but this partial laceration was often sufficient to produce profound collapse. As to the class of cases referred to by Dr. Lusk, which developed down in the broad ligament and separated the muscular structures, these usually went on pretty well to the sixth or seventh month. When the fœtus was extracted from the tube the symptoms were generally so characteristic that any experienced observer could recognize the condition without trouble. Laparotomy was here the only thing to be done, and there could be no question whatever as to its propriety.

In closing the discussion Dr. Dudley said that he believed with Dr. Janvrin that it was possible to make the diagnosis quite early, especially if we had existing together a certain class of symptoms similar to those met with in the case which he had reported. He did not believe, however, that it was possible to make an absolutely positive diagnosis until the decidua appeared. Still, without this we could make a diagnosis sufficient to warrant either the use of electricity or a resort to laparotomy. There was one point to which he desired to call attention, and that was that the placenta may continue to increase in size after the death of the fœtus, as had unquestionably been the case in this instance. With regard to electricity, while this means of treatment might destroy the fœtus, it would not *cure* the woman. It would not reopen the tube, and there therefore remained a diseased condition. When laparotomy was performed, however, everything was removed and no such focus of irritation remained in the pelvis afterward.

With respect to the drainage tube, he said that it had been his practice never to use this in any case unless there was free pus present. He had employed it in only two cases out of about seventy, and both of these died. In the case which he had reported this evening no drainage tube was used, and he thought that the omission to do so was justified by the result obtained. He believed in the use of electricity to stop the development of the fœtus, but at the same time thought that most of the cases would come to laparotomy afterward. In experienced hands and performed with all the requisite precautions, he did not think laparotomy any more dangerous than electricity.

The Saturday and Sunday hospital collection was larger this season than ever before, amounting to $57,000, and it has now been distributed to the various institutions entitled to a share in the fund.

It is very gratifying to learn that the bill which provides for the removal of the pauper insane from the county poorhouses to first-class State asylums has passed the lower house of the Legislature, and that it is likely to pass the Senate also. For two or three years the friends of this long hoped for reform have been striving with all their energy to get such a bill through the Legislature, and it has been a hard struggle between enlightenment and public spirit on the one hand, and ignorance and avarice on the other.

In the face of the facts brought forward in the admirable address of Dr. Jacobson on "Homœopathy and Medical Progress," which was published in THE JOURNAL of March 25, it is certainly to be wondered at that at the recent meeting of the Medical Society of the State of New York the President, Dr. Daniel Lewis, in his annual address, should have gravely recommended that the principles and practice of homœopathy should be regularly taught as a part of the curriculum of our medical colleges.

P. B. P.

Extraction of a Key from the Trachea.

To the Editor:—On the evening of February 14, 1890, Carl Blohm, aged 2 years, was brought to my office by his father, who stated that the boy had "swallowed" a key a few moments before. The patient was voiceless, dyspnœa was constant and alarming, and there was a frequent croupy cough. There was great retraction of the soft parts about the clavicles and in the inframammary regions in inspiration. It was very evident that the foreign body was somewhere in the air passages, and it seemed to me probable that it had not passed much below the larynx, as I could on no other theory account for the complete aphonia. However, neither with the finger nor with a pair of laryngeal forceps was I able to reach it through the mouth. It was plain that relief, to be of avail, must be speedy. Accordingly, after ineffectually trying a vigorous shaking with the patient inverted, I proceeded to perform tracheotomy under chloroform anæsthesia. The operation just above the isthmus of the thyroid was chosen, and in making the incision in the trachea I was so fortunate as to come directly upon the lower and smaller end of the offending key; and now came the part of the affair that seemed to me to be of peculiar interest. The key, or at least the large end of it, was so much wider than the diameter of the trachea that with the ordinary laryngeal forceps I was wholly unable to remove it from its position, as the blades of the instrument would slip off at every effort to grasp and remove the foreign body. It was only by taking a stout pair of polypus forceps that I was enabled to extract it. The key was of steel and measured 30 millimetres in length and at the widest part 13 millimetres in width. I have not been able to find in any authority accessible to me a table of the diameters of the trachea at different ages, but I am confident that in this patient it did not exceed 7½ or 8 millimetres. Relief to respiration was perfect, and as soon as the little fellow regained consciousness he audibly expressed his satisfaction with the result, as I held my finger over the tracheal opening to enable him to use his vocal organs. No tube was used, as I could see no indication for it, and the incision was allowed to close, which it did inside of forty-eight hours. A pretty severe bronchopneumonia came on on the second day and lasted four or five days. The patient is now practically well.

M. G. Sloan, M.D.

Dexter, Iowa, March 1, 1890.

The McKinley Tariff Bill has some features that will interest medical men. It allows the importation free of books and pamphlets printed in any language but the English, and of periodicals in all languages. Opium is put upon the free list.

ASSOCIATION NEWS.

American Medical Association, Forty-First Annual Meeting.

Section of Obstetrics and Diseases of Women.

The following list embraces the titles of papers that have been offered to this Section to April 1.

1. "Intra-Ligamentary Cysts," by W. H. Wathen, Louisville, Ky.
2. "Primary and Ultimate Results of Vaginal Hysterectomy for Cancer," by Charles A. L. Reed, Cincinnati, Ohio.
3. Title not announced, Rufus B. Hall, Cincinnati, Ohio.
4. "Gonorrhœal Disease of the Uterine Appendages," by J. M. Baldy, Philadelphia, Pa.
5. "A Plea for Early Vaginal Hysterectomy in Cancer of the Uterus," by Franklin H. Martin, Chicago, Ill.
6. "A Retrospect of Pelvic Surgery," by Joseph Price, Philadelphia, Pa.
7. "The Treatment in Placenta Prævia," by Aug. P. Clarke, Cambridge, Mass.
8. "Moot Points in the Doctrine of Placenta Prævia," by W. W. Jaggard, Chicago, Ill.
9. "The Treatment of Placenta Prævia, based on an Experience of Thirty-four Cases," by G. H. Balleray, Paterson, N. J.
10. "She Supposed it was Her Change of Life," by A. Vander Veer, Albany, N. Y.
11. Title not announced, by J. H. Kellogg, Battle Creek, Mich.
12. "A Résumé of the Ideas of Paul Portal's Pratique des Accouchments," by John Bartlett, Chicago, Ill.
13. "Psychical Results of Gynecological Operations," by I. S. Stone, Lincoln, Va.
14. "Stricture of the Urethra in Women," by Ely Van de Warker, Syracuse, N. Y.
15. Title not announced, by John B. Deaver, Philadelphia, Pa.
16. Title not announced, by C. B. Penrose, Philadelphia, Pa.
17. "Antiseptics in Obstetrics," by T. B. Greenby, West Point, Ky.
18. "Hyperemesis Gravidarum," by E. W. Mitchell, Cincinnati, O.
19. "Uterus Bilocularis," by L. H. Dunning, Indianapolis, Ind.
20. "The Great Utility of Bleeding in Puerperal Convulsions," by John G. Meacham, Racine, Wis.
21. Title not announced, by Wm. E. Ashton, Philadelphia, Pa.
22. "A Plea for the General Adoption of the Traction Forceps," by Joseph Hoffman, Philadelphia, Pa.
23. "Surgical Treatment of Non-Pedunculated Abdominal Tumors," by Henry O. Marcy, Boston, Mass.

24. "Extra-Uterine Pregnancy, with Cases," by E. E. Montgomery, Philadelphia, Pa.

25. "Laparotomy for the Purpose of Restoring the Functions of the Tubes and Ovaries," by William M. Polk, New York N. Y.

26. "Abdominal Section; its Practical Success," by R. Stansbury Sutton, Pittsburgh, Pa.

27. "The Intra-Peritoneal Ligature," by L. S. McMurtry, Louisville, Ky.

28. "A New Operation for the Relief of Prolapse of the Anterior Vaginal Wall," by Andrew F. Currier, New York, N. Y.

29. "Diseases of the Female Pelvic Organs, and when to Operate by Abdominal Section," by M. B. Ward, Topeka, Kansas.

This list is made up in the order of the reception of the titles; the papers will be grouped by subjects as near as possible for the meeting. Authors whose titles are not announced are requested to send them to the Chairman without delay. Wm. Warren Potter, M.D.,
Chairman.

Joseph Hoffman, M.D., *Secretary.*

INTERNATIONAL MEDICAL CONGRESS.

Tenth International Medical Congress, to be held in Berlin, August 4 to 9.

The Committee of Organization of the Tenth International Medical Congress, R. Virchow, *President*; E. von Bergmann, E. Leyden, W. Waldeyer, *Vice-Presidents;* O. Lassar, *Secretary-General*, have appointed the undersigned members of an American Committee for the purpose of enlisting the sympathy and coöperation of the American profession.

We are assured that the medical men of our country will receive a hearty welcome in Berlin. The Congress promises to prove of inestimable value in its educational results, and in securing the ties of international professional brotherhood. It is most important that the American profession should participate both in its labors and fruits.

Delegates of American Medical Societies and Institutions, and individual members of the profession, will be admitted on equal terms. The undersigned, therefore, beg to express their hope that a large number of the distinguished men of our country will appreciate both the honor conferred by this cordial invitation and the opportunity afforded us to fitly represent American medicine.

The Congress will be held at Berlin, from the 4th to the 9th of August.

The arrangements in regard to a few general meetings and the main scientific work, which is delegated to the Sections, are the same as in former sessions. A medico-scientific exhibition, the programme of which has been published a few weeks ago, is to form an ingredient part. It is to the latter that the Berlin Committee is very anxious that both the scientific and the secular press should be requested to give the greatest possible publicity.

The office of the Secretary-General is Karlstrasse 19, N. W., Berlin, Germany.

S. C. Busey, Washington, D. C.; Wm. H. Draper, New York City; R. H. Fitz, Boston, Mass.; H. Hun, Albany, N. Y.; A. Jacobi, New York City; Wm. T. Lusk, New York City; Wm. Osler, Boston, Mass.; Wm. Pepper, Philadelphia, Pa.; J. Peyer Porcher, Charleston, S. C.; J. Stewart, Montreal, Can.

MISCELLANY.

Official List of Changes in the Stations and Duties of Officers Serving in the Medical Department, U. S. Army, from March 29, 1890, to April 4, 1890.

By direction of the Secretary of War, Capt. Henry P. Birmingham, Asst. Surgeon, is relieved from station at Ft. Klamatk, Ore., and from temporary duty at Vancouver Bks., Washington, and will report in person to the commanding officer, Boise Bks., Idaho, for duty at that post. Par. 6, S. O. 72, A. G. O., Washington, March 27, 1890.

First Lieut. Charles F. Mason, Asst. Surgeon, is granted leave of absence for two months, to take effect on or about April 15, 1890, by direction of the Secretary of War. Par. 3, S. O. 76, A. G. O., Washington, April 1, 1890.

Capt. Marcus E. Taylor, Asst. Surgeon, leave of absence for one month granted by par. 3, S. O. 26 c. s., Hdqrs. Dept. of the Columbia, is hereby extended one month, on surgeon's certificate of disability. Par. 1, S. O. 19, Div. of the Pacific, March 27, 1890.

By direction of the Secretary of War, a board of medical officers, to consist of Col. Edward P. Vollum, Surgeon; Major George M. Sternberg, Surgeon; Major Henry McElderry, Surgeon; Capt. John J. Cochran, Asst. Surgeon; is constituted to meet in New York City on the 28th day of April, 1890, or as soon thereafter as practicable, for the examination of Asst. Surgeons for promotion and of candidates for admission into the Medical Corps of the Army. The board will be governed in its proceedings by such instructions as it may receive from the Surgeon-General. Par. 6, S. O. 78, A. G. O., April 3, 1890.

Capt. J. O. Skinner, Asst. Surgeon U. S. A. (Ft. Ontario, N. Y.), is hereby granted leave of absence for one month, the leave to commence forthwith, as his services may be required with troops to change station early in May. Par. 5, S. O. 75, Div. of the Atlantic, April 2, 1890.

Official List of Changes in the Medical Corps of the U. S. Navy for the Week Ending April 4, 1890.

Surgeon N. McP. Ferebee, ordered to the U. S. S. "Essex."

P. A. Surgeon Frank Anderson, detached from the U. S. S. "Dolphin" and ordered home.

P. A. Surgeon S. H. Griffith, detached from the Museum of Hygiene and ordered to the U. S. S. "Dolphin."

P. A. Surgeon A. C. Heffenger, ordered to temporary duty at Navy Yard, Portsmouth, N. H.

Surgeon Manly H. Simons, ordered to superintend repairs at Widows Island Hospital, in addition to present duties.

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ORIGINAL ARTICLES.

CANCER OF THE LARYNX.—REPORTS OF TWO CASES.

Read by title in the Section of Laryngology and Otology at the Fortieth Annual Meeting of the American Medical Association, held at Newport, June 1889

BY H. A. JOHNSON, M.D.,
OF CHICAGO, ILL

Two years ago I reported to the American Laryngological Association five cases of cancer of the larynx. The subject has engaged the attention of the profession since to a greater degree than before, and the history of the disease has become more fully known. The question as to what to do with a cancer of the larynx has not, however, been made any more evident. The exaggerated tendency to operation in all cases of surgical troubles, largely the result of, first, the use of anæsthesia, and, second, from the discovery and application of antiseptic methods and agents, has led the profession to consider lightly the dangers of operation and, consequently, to resort to them in cases in which the conditions justifying an operation are as yet perhaps not sufficiently known. At any rate, the question of extirpation of the larynx cannot be considered as beyond the experimental stage. The study of a larger number of cases is necessary in order to enable one to formulate the indications in any given instance.

The history of a case celebrated more on account of the exalted position of the patient than for any especial facts in its course or termination has led to much additional discussion as to the management of this affection. As a contribution to the history of the disease I beg to report to the Section the brief notes of two cases that have come under my observation within the last year.

Case 6 of my series.—M. B. S., æt. 55 years; male; married and the father of several children; of regular habits, and always in good health till the advent of the present trouble. Consulted me in August, 1888, for a "sore throat." I had known him for many years, but had not been his physician. A brother had died a few months before from some malignant disease—a sarcoma, as I understood. His father and mother lived to old age, and no other members of the family have had any malignant or tubercular trouble.

There was no evidence of any specific trouble. He had never had any severe illness, has not been subject to sore throat or to colds, and up to July, 1887, has had nothing to attract his attention to the throat. About that time, however, he began to experience, at times, some discomfort in talking; his voice began to be husky, not all of the time, but at intervals. He attributed this to cold and did nothing for it, or only used such domestic remedies as were suggested by the family. The huskiness continued, and in the December following he consulted a physician. There was at that time some soreness of the larynx. The examination disclosed what was pronounced to be an ulceration of the larynx. I am unable to learn whether or not a laryngoscope was used in this examination. A spray was used, and he thought his condition was improved. During the spring and summer the trouble, however, grew worse, and for the last sixty days—June and July, 1888, he has had, after exercising or in wet weather, some dyspnœa, and the voice has been entirely extinct. During all this time there has been no actual pain, but a sense of discomfort; there has been cough at times, but not troublesome. The appetite has been good, no difficulty in swallowing, and as he expresses it, he "feels first-rate."

I find, upon external examination, that the cartilages are prominent, symmetrical, movable, and not tender upon pressure or manipulation. The pharynx is red and the secretions are excessive in quantity. There is no change in the structure of the parts. The epiglottis is at its edges well defined and its form normal. The vestibule of the glottis is filled with a growth, especially at the anterior portion, which admits of only sufficient air to meet the demands of the system in a state of rest. The vocal bands could be seen only with difficulty in their cartilaginous portions; subsequently, after the use of cocaine, the cords were seen as narrow whitish bands throughout their entire length. The opening through the vestibule of the larynx was narrow, the walls roughened, and both sides were so nearly alike that it was impossible to say that the tumor was involved one side more than the other. The posterior portions of the larynx seemed not to be seriously, if at all, implicated.

I was in doubt as to the diagnosis and placed him upon potassium iodide and mercuric iodide. I also applied to the parts, with an atomizer, a solution of iodine in liquid cosmoline. There seemed for a time to be some improvement, but soon the dyspnœa evidently became worse, especially in damp weather, and occasionally in the night during sleep. He had been living in the country, and as a matter of precaution now came into the city, so as to be within reach should tracheotomy be necessary. The potassium iodide was not well borne, and was discontinued. It was on two occasions afterwards tried, but each time it evidently did not act kindly; there was, after a few days, decided loss of strength and impairment of nutrition. Local treatment by means of sprays and vapors was continued, astringents, iodine, carbolic acid, etc. These seemed to give some temporary comfort, but no permanent benefit. In the meantime external observations made it evident that the size of the organ was increasing, and that the enlargement was nearly symmetrical. The question of extirpation was raised, but before any definite opinion was reached tracheotomy became necessary.

Early on the 9th of November he was seized with a paroxysm of dyspnœa, and seemed to be moribund before the operation was completed, though the rapid method was employed. Artificial respiration was kept up for some time. A split Fuller's tube was inserted for convenience in the hurry of the moment, and this was after a few hours replaced by the ordinary form, which, however, was not easily retained, and a Durham tube was substituted. This was worn with great comfort during the remainder of life.

An accident which occurred in the use of this tube I venture to mention. About three weeks after the operation the swelling of the external tissues had subsided and I loosened the collar of the tube, with the thought of shortening the transverse portion—in other words, of bringing the collar down close upon the surface, so as to prevent undue pressure against the posterior wall of the trachea. I loosened the collar by turning the set screw. I concluded, however, not to make the change for the present, and tightened, as I had supposed, the binding screw. During the evening a severe fit of coughing came on and the nurse telephoned me that the patient had coughed out the tube. I at once hurried to the bedside and found the bands around the neck in place, with the collar of the tube over the tracheal opening, while the nurse had in her hand the inner tube, which had been, by a violent cough, thrown to the foot of the bed; the outer tube was nowhere to be found. I carefully examined the opening into the trachea; could see well the tracheal walls, but no tube. The patient breathed easily and, in answer to my questions, said he felt no discomfort; no cough. Upon further questioning the nurse I found that after cleansing the inner tube she attempted to introduce it, but did not succeed. She saw the outer tube in place before trying to introduce it, but could not see it afterwards. My patient was not in the least incommoded by a large size Durham tube, evidently resting somewhere in the respiratory tract. With a long probe I searched for it and found its upper end about two inches below the tracheal opening. With a pair of Mackenzie's laryngeal forceps I was able to seize the tube and extract it. It evidently did not come up as easily as it went down. The old proverb, "*facilis descensus*," etc. No harm came from it, but I at once made a flange on the upper end of the outer tube, so that it should be impossible for the accident to occur again.

During the whole history of the case there was but little pain. For the first few weeks after the operation the cough was troublesome and the expectoration muco-purulent. Later the expectoration was small in amount and mucous. There was at no time, or until the last day or two, difficulty in swallowing liquids, and only during the last few weeks difficulty in swallowing solids. There was no swelling of the lymphatics, so far as could be determined by careful palpation before or after death. The post mortem examination was limited to a section through the larynx, permitting an examination of the posterior walls of the trachea and larynx, and of the œsophagus. The latter was healthy, and the posterior portion of the larynx was involved only to a limited extent. The trachea below the canula was not ulcerated and presented the ordinary appearance of catarrhal inflammation. Evidently no injury had been done by the mechanical pressure of the tube. A section from the anterior portion of the larynx, including the cartilages, membranes and superficial tissues, was removed, and, upon microscopic examination, presented all the characteristics of carcinoma.

The death of the patient was from asthenia. There was no evidence of secondary carcinoma anywhere. For the two weeks preceding death there was frequent small pulse, Cheyne-Stokes respiration, anorexia and insomnolence.

Soon after the tracheotomy Dr. E. Fletcher Ingals saw him with me in consultation, and the question was again raised as to the propriety of extirpation. We neither of us thought the operation advisable. A peculiar feature of this case is the development from within anteriorly, leaving the posterior walls of the organ nearly or quite intact.

Of the five cases reported to the Laryngological Association by the author, all experienced difficulty in deglutition.

It is of course impossible now to say what was the initial lesion, but the first symptom was hoarseness. So far as I know there was no laryngoscopic examination made at that time. The patient supposed it to be only a cold; afterwards a physician diagnosed it as ulceration of the larynx, but I was unable to ascertain whether or not a laryngoscopic examination was then made. The transformation of benignant to malignant growths does without question take place elsewhere, and it is possible that the beginning may have been a papilloma; but I conjecture that the origin must have been in the glandular tissue of the ventricles on the vocal cords. The symmetrical development of the growth is, I think, unusual, and I hardly know how to account for it except upon the hypothesis of both ventricles or cords having been invaded about the same time.

The propriety of extirpation, complete or partial, will probably be judged differently by different members of the Association. In view of the statistics of carcinoma and of operations for extirpation, I confess I do not think it likely that life would have been prolonged by extirpation; and yet it belongs to the class of cases in which an operation is usually justifiable.

1. The patient was a male over 50.
2. A brother died from sarcoma or carcinoma.
3. The disease was primary carcinoma.
4. It was intrinsic.
5. It involved the anterior portion of the larynx and was symmetrical.
6. There was dyspnœa early, but no dysphagia till near the termination; then not marked.
7. The lymphatics were not involved.
8. There were no secondary developments.
9. Death was from asthenia.
10. The duration of the disease from the first symptoms was about twenty-one months.
11. The duration after tracheotomy was five months.

An additional case of cancer of the larynx has come under my observation within the last few months.

Case 7 of my series.—M., æt. 53; German; office work; family history good. During last year there was occasional hoarseness lasting a few days each time. For the last few months these attacks have recurred oftener, and for the last two months the hoarseness has been nearly constant. There has been slight difficulty in swallowing solids; particles lodge in the throat and cause cough; no soreness or pain with this. A small lump (deep upper cervical lymphatic ganglion) developed; is not tender and does not increase in size. The salivary secretions are excessive; the voice is whispering, broken; appetite poor; has lost 25 pounds in weight within the last two or three months; attributes this to difficulty in swallowing foods. There is now some dyspnœa. Examination reveals an irregular, ragged growth upon the posterior surface of the epiglottis and the right and posterior walls of the supraglottic space. The extreme border of the epiglottis is swollen and livid, but its form is not lost. The tumor bleeds upon the slightest provocation; even the effort to phonate produces bleeding. Nothing can be seen of the right vocal cord, and only a small segment of the middle portion of the left during phonation.

A second examination about two weeks later revealed no material change, except that there was upon the surface of the growth an ulceration grayish in color and bathed with pus. The lymphatic enlargement had somewhat increased, and the salivary secretion and dysphagia was more marked and troublesome.

The question of an operation is raised. The implication of the lymphatics seems to me to contra-indicate it.

With the five cases heretofore reported the summary of the histories is as follows:

1. All of the seven cases were males.
2. The youngest 45, the oldest 72 years.
3. In four of the cases the growth was from the right side, in one case from the left side, in one case symmetrical and anterior, and in one case probably from the left side.
4. In cases 5 and 6 there was a history of cancer; in case 5 the mother of the patient, and in case 6 a brother.
5. In one case only did the laryngeal disease appear to be secondary.
6. In two cases the lymphatics became involved, and in these two cases there was great tendency to hæmorrhage.
7. In no case was there marked pain in the larynx.
8. In four cases tracheotomy was performed.
9. Four cases should be classed as extrinsic and three cases as intrinsic.
10. The duration of life was: Two cases, 24 months; one case, 21 months; one case, 18 months; one case, 17 months; one case, 14 months; one case not yet determined.

CONCLUSIONS.

1. An intrinsic cancer, localized, with no enlargement of the lymphatics, should be operated upon as soon as its malignant character is determined.
2. An extrinsic cancer with enlargement of the lymphatics should not be operated upon.
3. Intrinsic cancers of the larynx are less likely to infect the system than extrinsic cancers.
4. Intrinsic cancers produce death by interfering with respiration; extrinsic cancers by general infection, but more especially by interfering with nutrition.

Of course there must be many cases of a mixed character. The progress of the disease from within outwards or from without inwards may take place rapidly, and when first seen it will be often impossible to determine the origin except by the order of the disturbances of function, as of respiration, or of deglutition. If dysphonia or dyspnœa have preceded dysphagia, we may conclude that the disease has been in its beginning intrinsic. If the difficulty of swallowing has been the first or a very early and prominent symptom, the disease has been extrinsic.

SHORT NOTES ON THE SURGICAL DISEASES OF CHILDREN.

Read in the Section of Diseases of Children, at the Fortieth Annual Meeting of the American Medical Association, June, 1889.

BY EDWARD BORCK, A.M., M.D.,
OF ST. LOUIS, MO.

What little I have to communicate upon the surgical diseases of children is based upon personal practical observation. It may not contain any very new information, but as we are all interested, it will add at least something to our collective treasure of knowledge and experience. As such I offer the following remarks, leaving out all theory, criticism and quotations.

I. CONGENITAL.

Hare Lip.—For a single, simple hare lip, after having tried the various methods known, I operate now with the object of not losing or destroying any tissue if possible to prevent it. I insert a very fine needle knife and pierce through the lower margin of one corner of the lip, sweeping the knife around to the opposite corner, thus leaving a complete and continuous bridge between the two parts of the lips. (See Fig. 1; dotted line indicates the incision.) I then pull it down (see Fig. 2), unite the wound with three or four fine cambric needles deeply inserted. Upon the needles a small piece of cork is put upon each side (see Fig. 3), a single figure-of-8 ligature to hold it in its place: the whole is penciled over with flexible collodion. In youths or adults I use small glass beads instead of cork, two or three on each needle. If swelling should occur I can break one or more beads and thus relieve the tension. I prefer to operate as soon as possible; the earlier the better for the unfortunate creature, and the better the success for the surgeon. The advantage of this plan is that the cork as well as the glass does not irritate the skin, and if any swelling should occur the ligature can be loosened without risk of separating the wound. The cork retracts slowly and enough to correct this swelling. Not dividing the lower margin in twins nor sacrificing any tissue, leaves me a complete natural bridge, a great advantage in cases where union by first intention is not obtained. It also fills up the gap better. The objections that one may raise who never has tried this plan may be that it leaves a pendulum or a flap hanging down, but if you have patience and wait, that which at first may seem a little unsightly to the eye, will in a few months disappear, so to say, it will be appropriated or absorbed by the surrounding tissue. If, however, there remains a small protrusion, it can easily be removed with the knife to suit the case, and a much better result is obtained. In double, simple harelip, I operate on one side at a time. After a perfect or complete healing of the first, I operate on the second.

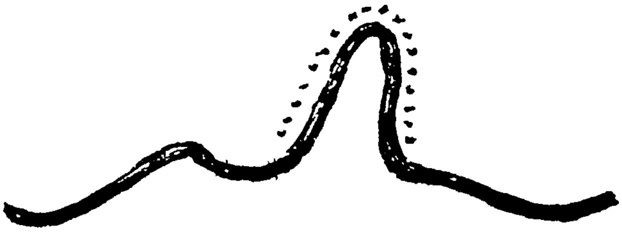
FIGURE 1.

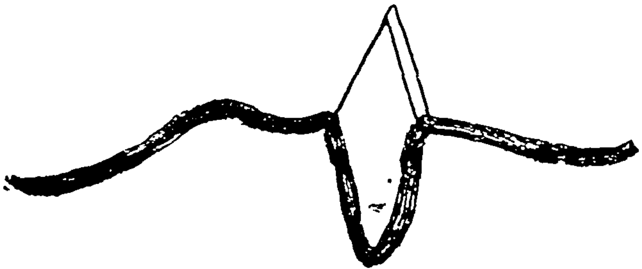
FIGURE 2.

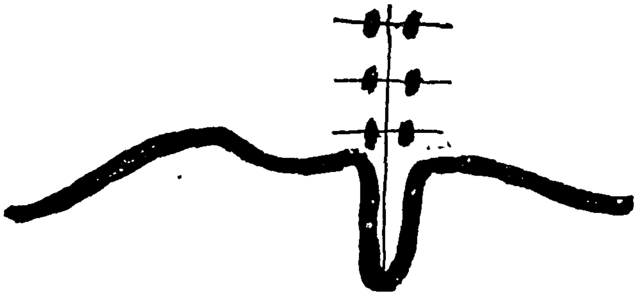
FIGURE 3.

In simple, complete harelip running into the nostrils, I operate in a similar way, paring the edges according to circumstances, let the flap hang down and remove the superfluous portions, if any, some time after union has taken place.

Hypertrophy of Tonsils.—I have seen no permanent cure from any treatment whatsoever, except the complete extirpation of the tonsils, which is, to my mind, the only safe treatment. Sometimes a temporary relief may be obtained by other remedies; but generally we find ourselves disappointed. I prefer to take out all of the gland, or as much as possible, either of one or both, as circumstances demand. The slicing off of a small piece only, and depending upon the remaining portion becoming smaller by atrophy, has been to me a disappointment. I have not observed impotency in adults who have had their tonsils removed in childhood. I know a few whose tonsils I removed when they were children; they grew up and were married, and their wives had children, and the offspring had all or most of the "ear-marks" of the tonsilless father; and I know more than one girl whose tonsils I removed that grew up, married, and became the mother of children.

Phimosis—Circumcision.—The frequency with which one meets with this affection, and its many different degrees, is remarkable; indeed, so remarkable that the question may be asked, what is really considered a perfect, natural prepuce? I would answer, whenever the prepuce is so formed that the opening is sufficient to uncover the gland, or at least the greater part of it. And now I would ask, with how many such formed cases have you met? I have met very few that presented this condition. I observed closely every case when I was engaged in a pretty large obstetrical practice as a general practitioner years ago; admitting, however, that I operated comparatively seldom during that period, and then only in the most urgent cases, letting the greater part remain undisturbed, as many other practitioners have done, and do now. What the beneficial or detrimental result of thus leaving to nature had, in after life, in each and every case, I can not tell; but I do know that in some of the cases which I did not operate on, I had an opportunity to correct, for some cause or another, this deformity during their childhood, or later during their manhood.

To the question, when and how is the operation to be performed, my answer would be, to the first: whenever indicated, and as early as recognized. To the second, operate in such a manner as to accomplish the purpose well for which you operate. Every case stands upon its own merits; no one certain operation, no one certain method, answers in each and every case. Good judgment must be used in each separate case; and the kind of operation or method of operation indicated for each case should be separately selected, for the promiscuous slicing off of a piece of the prepuce, and clumsily done, may produce an evil as great or greater than the one which we aim to correct. I am guided by the following, and operate accordingly: If the prepuce is very small, the prepuce not too long, I make a simple incision with the knife upon the dorsal side, sufficient to uncover the gland completely, and in the majority of such cases a small, or comparatively small, incision will accomplish the object satisfactorily. In cases where the prepuce is extraordinarily long, with either a small or large opening, I prefer circumcision, removing more or less, as the case may require. I use a flat forceps, made out of German silver, which I hand around for your inspection. You will observe that it has a channel which is intended for the knife to pass through. The prepuce is grasped with the forceps and the knife slides through the channel. I use ligatures occasionally and occasionally operate without ligatures, as the case may demand. I take plenty of time, and try with the utmost care to make the operation as neat as possible, and to leave a handsome and nice penis so that the operation may be a credit to the surgeon, the member may be a benefit and comfort to the patient and that others may derive pleasure therefrom. I need not mention all the defects and ailments for which this operation is recommended, as relief or prevention; neither will I speak of the mischief that may be done by an imprudent operation; it would take up too much time. I only wish to call attention to this important observation, that in cases where there is but a small opening in the prepuce and the prepuce is short, the gland is not uncovered or has never been uncovered until maturity, there the gland is always very small and atrophied, the penis is not well developed, is oftentimes very short and then unseemingly so in comparison with the other parts of the body.

I operated upon a young, handsome, well developed married man, the son of a physician, who had congenital phimosis, and who presented the above picture, and who informed me, like many others, that he never could enjoy the act of coitus; that erections were always accompanied with pain, almost to distress. He had no children. Circumcision relieved the gentleman; in time the penis was better developed and his family increased also.

II.—ACQUIRED.

Under the head of fractures and dislocations, I will state that I find the latter as a rule easily reduced, and kept in place; not often followed by unpleasant sequelæ, with the exception of dislocation of the head of the radius, which is the most difficult bone to replace in its proper position, and if success accompanies the attempt, it is as difficult to keep it there. The reasons why are obvious.

I would also call your attention to my method of reducing dislocation of the vertebræ by suspending the patient by the head. (See case reported in *Med. and Surg. Reporter*, Philadelphia, Pennsylvania, January 31, 1885, Vol. 52, No. 5.)

Fractures, I treat in the most simple manner. My observation has been that the more play and freedom you allow the little patient the better the result; that confinement of any kind does not suit children—it produces forced resistance and mischief. For instance, I treat fractures of the femur with a simple, single paste board splint, extending it from the crest of the ilium to below the knee; using a bandage and starch, employing no extension or counter extension; I leave the child alone upon a good mattress. After union has taken place I cut off the lower part of the splint a little above the knee so as to make a short femur splint, and again allow the little creatures the free use of their limbs. I am not afraid they will abuse it.

In fracture of the radius near the carpal joint, the best result has been obtained by me with the straight splint upon the flexor side, from the elbow to the metacarpo-phalangeal joint, fingers free. After union has taken place, a light paste board splint is applied over the radial side for a short time for safety's sake, and free use of the arm and hand is permitted.

The Epiphyses.—Separation af the epiphyses—I mean hereby fracture—I see much more frequently in late years than formerly, in all shapes and forms, at all stages. Sometimes directly after the injury has occurred; at other times weeks, months, and years afterwards. My observation has taught me that separation of the epiphyses of the humerus and femur are the most frequent, and no matter at what time the injury is recognized, or how carefully it is treated, the results are never very satisfactory. The separated epiphysis is partly or completely absorbed and therefore has only partial or no union at all, and the limb will have a dangling motion, though time may improve the usefulness of the limb, but the patient never recovers as well as after a fracture in other parts of the bone.

Hip Disease.—In the second stage of hip disease—that is the stage of effusion, we have among other symptoms, great pain. If the case goes from bad to worse—that is from the second to the third stage, suppuration takes place, and as soon as the capsule is perforated the pain ceases. I have therefore been led in several cases, to open the capsule by a subcutaneous incision during the second stage, with the most gratifying results. By this means I let the fluid run into the surrounding tissues to be absorbed by nature. The pain ceases immediately, the patient is then put in as comfortable a position as possible; the limb is easily straightened by manipulation. The best method that I have employed is to put the patient upon a pair of wire breeches. No forced extension is employed. I will say that aspiration as a curative method has failed in my hands.

Extension and Counter-Extension, employed upon the fanciful theory that thereby the head of the femur is separated from the acetabulum is useless. In a healthy joint it cannot be done. The two surfaces are in such close relation—move upon one another so accurately, that there is no room; the vacuum is small indeed and the joint hermetically sealed, therefore it can not be pulled asunder. Separation of these two surfaces can only take place when disease has destroyed the ligaments and the capsule is opened.

Club-Foot.—I do not think that we surgeons up to the present time have accomplished all that might be accomplished for the successful treatment of club-foot, notwithstanding all the modern improvements for the treatment and cure of the various kinds of club-foot. There is not a single method ever so much praised, that will answer for all cases belonging to one or the other class of club-foot. There is no apparatus that will answer for all cases. Each case requires a careful study and though several cases may present the same features, each separate picture may be produced by a different cause, consequently the treatment applied to one case may not answer for the other. Has not every surgeon seen cases of club-foot successfully treated by one or another method, and has not every surgeon seen the same case so successfully treated by him fall into a relapse again after a time? Most certainly. Then what is the cause of these relapses? Has the fault been with our diagnosis or with our treatment? That is the question to be answered. Now it may be with one or the other or it may be both; or there may be something else, which as yet we do not know, but certain it is that these relapses do occur over and over again, and more often than we are willing to admit. I think that success greatly depends on the diagnosis—a careful diagnosis between the physiological club-foot and congenital pathological club-foot of the infant is of the utmost importance, the first of which, according to my observation, every infant possess in a greater or less degree, and which is always corrected as soon as the child begins to walk, and these are the cases that the child will outgrow. Now if the apparent deformity of the physiological club-foot is subjected to the treatment of a congenital pathological club-foot, then surely there will be some mischief produced; and a permanent deformity will remain in the future, for when the child begins to walk, then the deformity will be increased and it has to be corrected over again. Again, if a congenital pathological club-foot is looked upon as a natural physiological position of the foot and left to itself to outgrow, we will be sadly disappointed again, for the deformity, if not corrected early, will increase rapidly and fearfully as soon as the child begins to use its feet in walking. It is more difficult then to correct the same; the more advanced the case, the more severe treatment it takes. If no treatment is instituted the case grows worse and worse until at last no kind of treatment will correct the error. A correct diagnosis and as early a treatment as possible is essential for success. Different forms of treatment are required for the different forms of congenital or acquired club-foot. For example, to try to cure a club-foot or genu valgus, which was caused by congenital paralysis, by complicated mechanical appliances would be in vain; and it would be useless to attempt to correct such a deformity by the operation of tenotomy, osteotomy and so forth; it would not alone be a failure, but a discredit to the surgeon. I pursue no one method for all cases. I adapt my treatment to each individual case and am well satisfied with the general results I have obtained.

Tracheotomy.—This operation is an unthankful one. Out of eight cases during this year, I have lost seven; one of them died upon the table. It was a child only eight years old, the only daughter, a handsome bright child. All these cases I saw in the last stages of diphtheria or membranous croup, being called merely to perform the operation as a *dernier ressort.* The remaining cases all lived from two to twenty-four hours. They have occupied my mind and I have asked myself the question: What can be the cause of all these fatal terminations? consoling myself at the same time that others have had no better luck. In my seven cases chloroform was administered and the operation done at night by gas or kerosene light. All care was taken by myself and the neccessary attention bestowed at the time and in the after treatment by the watchfulness of the attending family physicians. Now whether the chloroform, or possibly the mixture of the gas or kerosene with the chloroform may have been a factor in these cases I can not determine; but it occupies my mind at present for solution. The eighth case, a child four years old, suffered with membranous croup, the dyspnœa was very great, the patient was almost cyanosed. I operated without chloroform and quickly, on a bright day. This child recovered after careful treatment and attention by the family physician. About twelve years ago, during a season, I performed ten tracheotomies with five recoveries. It has not and may never again repeat itself. Tracheotomy for the removal of foreign bodies hardly ever terminates fatally.

Diseases and Injuries of the Spine, are very interesting studies, and under that head I will only say a few words about what is known as Pott's disease. The principles of the treatment of the trouble, though important, is very well understood, but of the pathology of this affection I think we can still learn a good deal by more close investigation. The question is what is the general cause; this seems even at the present day not quite settled; the opinions are various and a few cannot give up the old inherited theory of scrofulous diathesis. My observation, studies and investigation have taught me that in by far the majority of cases the cause of caries of the spine has been produced by mechanical injury. So with diseases of the joints such as abscesses, etc. The tubercular origin of such has not been and can not be satisfactorily proven; it is only a convenient theory.

Mr. President, there are other interesting topics such as congenital tumors, hernia, spina bifida, etc., but I have already taken my allotted time. One could write a good sized monograph upon every single affection. The points which I have touched upon in this paper were brought forward for the purpose of eliciting discussion upon this interesting field of surgical diseases of children and thereby obtain the views and opinions of others in order that we might listen to the personal observations of the many distinguished gentlemen here present. I should like to have said a few words about laparotomy in children, but will reserve it for another occasion. I thank you for your attention.

STATISTICS OF CONSTITUTIONAL AND DEVELOPMENTAL IRREGULARITIES OF THE JAWS AND TEETH OF NORMAL, IDIOTIC, DEAF AND DUMB, BLIND, AND INSANE PERSONS.

Read in the Section of Oral and Dental Surgery, at the Fortieth Annual Meeting of the American Medical Association, June, 1889.

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In some papers read before the Odontological Society of Great Britain from 1864 to 1872, the general opinion was expressed that certain marked forms of irregularities of the jaws and teeth *prevailed largely among the feeble-minded, and* that when found in children they constituted a marked symptom of a low order of mental development. In May, 1864, Mr. Cartright, in a paper entitled "Reflections on the Cause and Treatment of Some Forms of Irregularities," said that irregularity of the teeth "is the result of high and selective breeding." This opinion I have already discussed in a paper read before the Indiana State Dental Society on June 26, 1888, on "Arrest of Development of the Maxillary Bones due to Race-crossing, Climate, and Soil," which was published in *The Dental Cosmos.*

In June, 1864, Mr. Thomas Ballard read a paper before the Odontological Society on "The Constitutional Ill-effects of Fruitless Sucking, and the Diagnostic Value of Deformed Jaws in Relation thereto," in which he claimed that thousands of children die annually of diseases primarily due to fruitless sucking; "but many of the sufferers escape death, and they constitute a class of defective individuals with which all classes of society abound. The worst form is the idiot, and in this class there are many degrees." Again he says: "I hold that the deformities to which I refer," but which he does not mention specifically, "are produced solely by the retained habits of sucking; and it is the children who have been exposed to fruitless sucking and consequent persistent diarrhœa, with its attendant evils, when infants, who acquire the retained habits of sucking, and thus get their jaws deformed. And as in idiots are seen the worst forms of defective growth, so also do they exhibit the most aggravated forms of deformed jaws and teeth, the habits of sucking being retained by them to an advanced age. . . . . So also are the deformed jaws and teeth commonly to be observed among the ill-grown, phthisical, and the weak and delicate members of society. The normal jaw, with well-set and perfect incisor teeth, is the principal characteristic feature of an individual possessing a sound constitution." I shall show subsequently in this paper that it is not true that idiots present the most aggravated forms of deformed jaws and teeth.

In his work on "Deformities of the Mouth" Mr. Oakley Coles attributes intermaxillary prognathism to a force operating on the intermaxillary bone, such force originating in the body of the sphenoid, and being transmitted by the intervening nasal septum. By *force* he means a direction of growth in a given line, of such energy as to overcome the resistance offered to it by surrounding structures. In regard to the sphenoid bone he says: "It may be urged that too much importance is attached to the influence of the sphenoid, but it must be borne in mind that this bone continues to grow up to about 25 years of age. This will in part explain the fact of deformities of the upper jaw appearing after the eruption and shedding of the temporary teeth, and becoming intensified towards adult life." Arguing back from the development of cases of double hare-lip to premaxillary prognathism, he thinks that we can come to no other conclusion "than that the duration and extent of the force operating upon the intermaxillary bone determines the nature and extent of the deformity that will be produced." He sees the natural objection to this view, that as the prognathism is not pronounced in early life, and as the union of the intermaxillary bones with the true maxillary bones is complete at this time, it is impossible that the intermaxillary bone can be the subject of any subsequent change. But, having shown that "intermaxillary prognathism is but a preliminary step in the deterioration of the form that will produce in a subsequent generation (subjected to like conditions of propagation) double hare-lip," he assumes that the general cranial development will in the two cases bear some relation to each other; and as Hutchinson has shown that in cleft palate cases ossification of the sutures is delayed to a period far beyond the usual date, so in cases of intermaxillary prognathism the sutures would not be so much ossified as to oppose any sufficient resistance to the exercise of the force originating in the sphenoid. He then goes on to say that many cases of prognathism are associated with such central lesions as will manifest themselves in the form of idiocy or imbecility, and distinctly asserts that such a deformity as prognathism occurring amongst the highly civilized is a distinct mark of deterioration of stock. "After carefully examining the works of various writers on the subject of microcephalic idiocy," he says, "there seems sufficient evidence to justify the belief that premature ossification of the sutures is the rule in the majority of these cases; and we may, therefore, assume, if we cannot absolutely conclude, that this influence operates powerfully in the production of the dental deformity known as the lambdoid jaw;" a view held by Virchow, but combated by Ireland and Langdon Down.

Dr. Louis Ottofy, in his paper on "The Incipiency of Dental Caries," read before the joint meeting of the American and Southern Dental Associations at Louisville, on August 30, 1888, reported an examination of the mouths of 623 children—317 males and 306 females. These children were pupils in the public schools at Grand Forks, Dak., Lebanon, Ill., and Chicago. The following table shows the percentage of irregularities:

Age.	Irregular.	Regular.
5	0 per cent.	100 per cent.
6	9 "	91 "
7	27.5 "	72.5 "
8	43 "	57 "
9	14 "	86 "
10	31.5 "	68.5 "
11	32.5 "	67.5 "
12	25 "	75 "
13	20 "	80 "
14	35 "	65 "
15	28 "	72 "

It will be seen that the largest percentage of irregularities is at the age of 8 years. The cuspid teeth are appearing at this time, and at least one-half of the irregularities are due to local causes. At the age of 13 but 20 per cent. of the cases showed deformities; nature and a judicious use of the forceps had corrected many of them. At the age of 15, 28 per cent. of the teeth were irregular. I venture the opinion that if these examinations could have been extended to the age of 20 years, the percentage of irregularities would have diminished. The development of the jaws at this age would allow nature to reduce many of these abnormal conditions.

The following table shows examinations of mouths of 1000 children over 12 years of age, made by myself:

TOTAL DEFORMITIES IN THE JAWS OF HEALTHY INDIVIDUALS OVER 12 YEARS OF AGE.

No.	Sex.	Normal.	Large Jaw.	Protrusion lower jaw.	Protrusion upper jaw.	High Arch.	V-shaped Arch.	Partial V-shaped Arch.	Thumb Sucking.	Saddle-Shaped Arch.	Small Teeth.
396	M.	313	11	3	5	26	5	18		12	13
604	F.	467	8	4	2	30	6	43		21	17
1000	Total	780	19	7	7	56	11	61		33	30
Per cent.		78	1.9	.7	.7	5.6	1.1	6.1		3.3	3 0

The difference between Dr. Ottofy's percentages and those shown in the above table is accounted for by the fact that in his table both local and constitutional causes are included, while in mine the many deformities due to local causes are excluded.

Nearly all of these cases were residents of Chicago, and had been attended by the dentist regularly. These irregularities, therefore, might be classed as constitutional or developmental, as they could not be prevented by the dentist by the use of the forceps. We naturally suppose that the majority of the children examined by Dr. Ottofy, living in the country as they did, had received but little attention from the dentist—which would account for more cases being irregular than among those examined by me. It is possible also that some of those I examined had had slight irregularities corrected while they were young, thus preventing serious complications when maturity was reached. I should expect to find quite a difference in the percentage of irregularities in different parts of the country. When people are confined indoors, and do brain work chiefly, as those living in cities, they are likely to have more irregularities than country people. So also among those living in old parts of the country, as the New Englanders, rather than in residents of a newer part of the country.

The Jaws of Idiots.—Dr. W. W. Ireland has defined idiocy as "Mental deficiency or extreme stupidity depending upon malnutrition or disease of the nerve centres occurring before birth or before the evolution of the mental faculties in childhood." A definition that seems more inclusive, and that more clearly describes the tissues of the body, is the one given by Dr. Shuttleworth: "A vice of the entire organism; an affection not only of the nervous system but of the functions generally of organic life." Not a tissue of the body is exempt; the phenomena that check development of the brain tissue will also interfere with proper development of the other tissues of the body.

No part of the body has received the impress of disease so markedly as the osseous system, and yet pathologists have given this part of the idiotic system but little attention. The osseous system seems to have been constructed regardless of symmetry or uniformity. While in the normal individual the lateral halves are never uniform, in the feeble-minded the greatest asymmetry prevails. This want of harmony is more apparent in the maxillary bones because of their peculiar formation and environment. The close proximity of the jaws and their articulations permits of irregularities being readily observed. At the beginning of my examination I observed that other deformities than the V- and saddle-shaped existed, all of which must be considered. I found both excessive and arrested development of the maxillary bones, arrest of the one and excessive development of the other, protrusion of the upper or lower jaw, high and low vault, partial V and partial saddle-shaped arches, semi-V and semi-saddle-shaped arches, semi-V and semi-saddle-shaped on the same side, and small teeth.

Of late years some American investigators had made examinations among the inmates of our institutions for idiots, and reported that they found about the same proportion of irregularities as may be seen in ordinary practice. The varying opinions among scientific men on either side of the Atlantic led me to investigate the subject carefully. The examinations were made by myself and able dentists in the following named institutions:

Asylum for Idiots of the State of New York, at Syracuse; Massachusetts School for Feeble-minded, at South Boston; Illinois Asylum for Feeble-minded Children, at Lincoln; Asylum for Idiots, Randall's Island, N. Y.; Minnesota Training School for Idiots and Imbeciles, Faribault; Kansas State Asylum for Idiots and Imbeciles, South Winfield; Cook County Insane Asylum, Dunning, Ill.; Pennsylvania Institute for Feeble-minded Children, at Elwyn.[1]

The following tables show the total number of irregularities in each grade and sex:

TOTAL DEFORMITIES IN THE JAWS IN ALL GRADES.

HIGH GRADE.

No.	Sex.	Normal.	Large jaw.	Protrusion lower jaw.	Protrusion upper jaw.	High Arch.	V-Shaped Arch.	Partial V-shaped Arch.	Thumb Sucking.	Saddle-Shaped Arch.	Small Teeth.
334	M.	190	33	10	36	84	16	44	2	51	16
228	F.	132	14	14	17	57	15	12	5	23	14
562	Total	322	47	24	53	141	31	56	7	74	30
Per cent.		57.2	8 3	4.2	9.4	25	5.5	9.9	1.2	13.1	5.3

MIDDLE GRADE.

No.	Sex.	Normal.	Large jaw.	Protrusion lower jaw.	Protrusion upper jaw.	High Arch.	V-Shaped Arch.	Partial V-shaped Arch.	Thumb Sucking.	Saddle-Shaped Arch.	Small Teeth.
434	M.	261	34	19	22	41	25	45	1	33	11
316	F.	195	17	9	18	26	16	46	5	24	12
750	Total	456	51	28	40	67	41	91	6	57	23
Per cent.		60.8	6.8	3.7	5.3	8.9	5.4	10.8	8	7.6	3

LOW GRADE.

No.	Sex.	Normal.	Large jaw.	Protrusion lower jaw.	Protrusion upper jaw.	High Arch.	V-Shaped Arch.	Partial V-shaped Arch.	Thumb Sucking.	Saddle-Shaped Arch.	Small Teeth.
271	M.	97	37	23	32	55	33	39	7	37	9
394	F.	220	27	17	34	56	24	50	11	39	9
665	Total	317	64	40	66	111	57	89	18	76	18
Per cent.		47.6	9.6	6	9.9	16.6	8.5	13.3	2.7	11.4	2.7

TOTAL DEFORMITIES IN THE JAWS.

No.	Sex.	Normal.	Large jaw.	Protrusion lower jaw.	Protrusion upper jaw.	High Arch.	V-Shaped Arch.	Partial V-shaped Arch.	Thumb Sucking.	Saddle-Shaped Arch.	Small Teeth.
1977		1095	152	92	159	318	129	236	31	207	71
Per cent.		55.3	7.6	4.6	7.9	16	6.5	11.9	1.5	10.4	3.5

The above tables show that almost one-half of the whole number examined had irregularities of the jaws and teeth. The examined were children over 9 years of age. Under that age irregularities might be considered as of local origin, while constitutional and developmental irregularities do not appear until the eruption of the incisors and first permanent molars. As would be expected, the largest percentage of irregularities is found in the low-grade class; and it is seen that the normal class in the high and middle grades vary only about 12 per cent., the middle grade showing the largest percentage of normal jaws and teeth, the high grade the next, and the low grade the fewest number of normal cases.

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[1] Special reports may be found in the Transactions of the International Medical Congress, 1887, and in the Annual, 1888.

The mental capacity of the idiot can indicate in a general way only the abnormal condition of the osseous as well as muscular, venous and arterial systems of the individual; thus, a high-grade idiot might possess an atrophied condition of any of the tissues of the body, while a low-grade idiot might develop any or all of the tissues to an excessive degree, this depending of course upon the inclination and condition of the blood supply. Thus the arterial and nervous systems might be atrophied on one side, lessening the supply of blood to that side or limb, producing atrophy of the muscular and osseous tissues on that side. The opposite effect might be produced on the other side; a large amount of blood would be carried, naturally, to the extremities of the other side, causing hypertrophy of tissue.

If the tissues of the body are so prone to take on abnormal conditions, certainly the jaws must suffer more or less. I have observed three conditions that account for nearly all the irregularities of the jaws and teeth: excessive development, arrest of development, and inharmonious development of the maxillary bones. These abnormalities are developed with the osseous system, and may be properly termed constitutional and developmental.

When excessive development occurs in one jaw and the other is normal, or arrested development ensues, then the teeth in the abnormally large jaw protrude.

If the cranium is large the superior maxilla is usually larger than normal. When the inferior maxilla is involved the rami are as likely to be enlarged as the body of the bone. Sometimes the rami and body develops uniformly. When there is excessive development of a part of all of the bone, protrusion of the lower jaw and teeth takes place. I have seen cases in which one-half of the superior and inferior maxilla, as well as one-half of the cranium was larger than the other.

In these irregularities of the jaws, however, irregularities of each set of teeth are seldom seen. While it is proper to speak of these conditions as irregularities, yet they are so only as one jaw is related to the other.

I have already shown, in a paper read before the Dental Section of the American Medical Association in 1888, that irregularities of the teeth, which I have termed constitutional, prevail to a greater extent among the idiotic, deaf and dumb, and blind than among an equal number of strong and well-developed persons; that not only is the brain matter deficient in the feeble-minded, but that many cases are seen that show that the osseous system is generally defective; and that when the bone tissue is arrested in development from malnutrition, the maxillary bones are affected.

It is frequently the case that when idiocy appears in a family, other members of the family are observed to be scrofulous, deaf, dumb, blind, or insane, showing that the conditions indicating neurotic tendencies have been transmitted through generations. In his work on "Insanity in Norway," Ludwig Dahl gives many instances in which the result of this tendency is deafness, dumbness, or insanity, as often as idiocy. He says: "Acquired insanity and idiocy frequently appear side by side in the same family stock. Deaf-dumbness occurs frequently." He has traced the genealogies of a number of families, and has brought to light a number of interesting facts. In his genealogy of No. 3, the Ejvinds family have nine insane or idiotic, four deaf and dumb, and one epileptic. Other families showed a similar proportion of mentally and physically deformed persons.

In his work on "Idiocy and Imbecility," p. 528, Dr. Ireland says: "Deafness frequently occurs in families where some of the other members are idiots." And again, on page 16: "The children of epiletics are frequently insane or idiotic or hysterical, and the descendants of an insane person are often epileptic, idiotic or insane. Deaf-dumbness, chorea, locomotor ataxia, hysteria, and other disorders of the nervous system now and then occur in the descendants apparently as the result of an inherent neurotic tendency in the family."

In the report of the Commissioner on Idiocy appointed by the Legislature of Connecticut,[1] it was found that out of seventy cases of idiocy there were ten cases of idiotic parents, six insane parents, six insane relatives, eight epileptic parents or relatives, eight blind and two melancholic.

Dr. Howe shows[2] that in seventeen families in Massachusetts, the heads of which were blood relations, there were born ninety-five children, of which forty-four were idiotic, twelve scrofulous and puny, one deaf and one a dwarf. Morel and the school of investigation which he founded point out that the defective classes, *i. e.*, the congenital deaf mute, blind, lunatic, idiotic, criminals and paupers, are buds on the same tree of human degeneracy. In dealing with the evidences of degeneracy they cite defective teeth as one of the signs in most instances. These signs are ativism or reversion to lower types of structure and junctions. Many more cases could be given showing that a relation exists between the deaf, dumb, blind and insane, but it is evident that the offspring of parents showing neurotic tendencies and symptoms are subject to these conditions. Medical men have commonly classified these lesions under the same head; and some specialists go so far as to classify the criminal and drunkard in this category.[3] I have recently read an article from a French journal in which a left-handed person was also included.

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[1] See Report of Commissioners on Idiocy to the General Assembly of Connecticut, New Haven, 1856, p. 35.

[2] On the Causes of Idiocy, Edinburgh, 1858, p. 35.

While specialists have generally concluded that most of these conditions are derived from a common neurotic ancestry, the only common feature is a very low grade of cerebral development. In my investigations concerning the osseous system in its relations to the irregularities of the jaws and teeth, I have observed a lesion common to all these conditions. With this object in view I have made examinations of the mouths of all these classes except the criminal, and these I hope to examine in the near future. I found great difficulty in enlisting sufficient interest on the part of superintendents of Blind Asylums to enable me to make proper examinations of the blind, their reason being that the sensitive nature of the parents would not permit of their exhibiting the mouth for examination.' I have made a sufficient number of examinations, however, to make some estimate of the percentage of deformities of the jaws and teeth.

Deaf and Dumb.—The greatest interest has been shown by the superintendents of deaf and dumb institutions, thus enabling me to make very satisfactory examinations. In some of the institutions visited the blind are retained with the deaf and dumb; when such was the case the blind were classed with the deaf and dumb. Examinations were made in the following named institutions; either by myself or by able dentists living in the town or city where the institution was located:

Minnesota School for the Deaf, Faribault; Portland School for the Deaf, Portland, Me.; Oregon School for Deaf Mutes, Salem; Colorado Deaf and Mute Institution, Colorado Springs; New Jersey School for Deaf Mutes, Trenton; South Carolina Institution for the Education of the Deaf, Dumb, and Blind, Clear Springs, S. Ca.; Milwaukee Day School for the Deaf, Milwaukee, Wis.; Washington School for Defective Youth, Vancouver, Washington Terr.; Arkansas Deaf Mute Institution, Little Rock; Iowa Institute for Deaf and Dumb, Council Bluffs; Clark Institute for Deaf Mutes, Northampton, Mass.; Evansville Deaf Mute School, Evansville, Ind.; Institute for the Deaf, Dumb, and Blind, Berkeley, Col.; Kansas Institute for the Deaf and Dumb, Olathe, Kans.; Institute for the Deaf and Dumb, Austin, Texas; Nebraska Institute for the Deaf and Dumb, Omaha; Alabama Institute for the Deaf and Blind, Talledega; Indiana Institute for the Deaf and Dumb, Indianapolis; Western Pennsylvania Institute for the Deaf and Dumb, Pittsburg; Northern N. Y. Institute for Deaf Mutes, Malone, N. Y.

The following table shows the results of the examinations of the Deaf and Dumb:

TOTAL DEFORMITIES IN THE JAWS OF THE DEAF AND DUMB.

No.	Sex.	Normal.	Large jaw.	Protrusion lower jaw.	Protrusion upper jaw.	High Arch.	V-shaped Arch.	Partial V-shaped Arch.	Saddle-shaped Arch.	Small Teeth.	Cleft Palate.
1111	M.	538	197	41	116	241	91	115	108	51	
824	F.	363	108	51	89	177	78	77	95	62	
1935	Total	901	305	92	205	418	169	192	203	113	2
Per cent.		46.5	15.6	4.7	10.5	21.7	8.7	9.9	10.4	5.8	

Examinations were made in the following named institutions for the blind: Institute for the Blind, New York City; Maryland School for the Blind, Baltimore; Maryland School for the Blind and Deaf and Dumb, Baltimore; Kentucky Institute for the Blind, Louisville.

The results of the examinations of the blind are shown in the following tables:

TOTAL DEFORMITIES IN THE JAWS OF THE BLIND.

No.	Sex.	Normal.	Large jaw.	Protrusion lower jaw.	Protrusion upper jaw.	High Arch.	V-shaped Arch.	Partial V-shaped Arch.	Saddle-shaped Arch.	Small Teeth.	Cleft Palate.
107	M.	53	8	9	10	20	4	3	6	7	
100	F.	52	8	7	5	18	3	6	5	3	1
207	Total	105	16	16	15	38	7	9	11	10	1
Per cent.		50.7	7.7	7.7	7.2	18.3	3.3	4.3	5.3	4.8	

In the following table are shown the results of the examinations of the mouths of the insane.

TOTAL DEFORMITIES IN THE JAWS OF THE INSANE.

No.	Sex.	Normal.	Large jaw.	Protrusion lower jaw.	Protrusion upper jaw.	High Arch.	V-shaped Arch.	Partial V-shaped Arch.	Saddle-shaped Arch.	Small Teeth.
430	M.	394	10	4	2	18	12	29	3	5
270	F.	226	8	6	4	26	14	18	9	2
700	Total	620	18	10	6	44	26	47	12	7

Examinations of the mouths of 700 insane patients at the Cook County, Ill., Insane Asylum, and the Illinois State Insane Asylum, as shown in the table, revealed the fact that only about 12 per cent. were irregular, the irregularities consisting of protrusion of the upper and lower jaws, partial V, and very few saddle-shaped arches. The high arch was quite conspicuous among these people. Some of these irregularities were due to local causes. These irregularities were among cases of congenitally insane patients, or patients that had become insane early in life. These observations were not confined to the hereditary types.

With few exceptions insanity does not appear in the individual until the skeleton has attained its normal development. There were irregularities of the teeth produced by local causes. It is probable that a large percentage of constitutional irregularities of the teeth could be found in the mouths of inmates of our private asylums, where there are more hereditary cases. It has been suggested by Dr. Coles that high vaults and cleft palates are associated. It is doubtful if this can be proven. Out of 1,977 idiots 318 had high vaults and but one case of cleft palate. Among 2,142 deaf, dumb, or blind persons, there were 255 high vaults, and only three cases of cleft palate. This small percentage would indicate that this lesion is not inherited nor developed with the osseous system, but is merely an accident, and local in its origin.

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[3] Lombroso has called attention to deformities of the jaws among the born criminals.

The high arch or vault, observed among idiots, and also observed, though perhaps not so frequently, among normal persons, cannot be considered a deformity or irregularity of the jaw, although where present it furthers the production of irregularities of the teeth. This peculiar formation of the roof of the mouth was seen closely allied with the V and saddle-shaped arches, and many that have given thought to this subject, especially Dr. Ballard, believed it a part of the deformity, and that it was produced by the pressure of the thumb or finger in the roof of the month. I have examined a number of children while sucking the thumb or finger, and have never found that they reached the roof of the mouth. If it were possible for the high arch in the anterior part of the mouth to be produced by pressure of the thumb or finger, how can we account for the high arch in the posterior part of the mouth when the position is such that the thumb or fore-finger cannot reach it without considerable exertion? Some of the arches are higher at the median line, others at either side of the median line, while still others are high, broad or flat, showing that they could not be produced by sucking a foreign substance.

I venture the opinion that the high arch is a natural development of contour in harmony with the other bones of the face. It is produced in connection with the eruption of the second teeth, and with the development of the facial bones, by the elevation of the vault on the one hand, and the elongation of the alveolar process on the other. This is seen generally in connection with long thin faces, and long thin jaws, necks and limbs. It is connected with the typical shape of the American face, and is not so often seen in foreigners.

Irregularities of the jaws and teeth, as the V- or saddle-shaped jaws, are not confined to the high vault; they are frequently seen in connection with the medium or low vault. The high vault, as has been mentioned, aids the production of irregularities. The alveolar processes are thin and long, affording feeble resistance to the pressure of the teeth, as they force their way into the arch. The thin alveolar process gives way and either the V- or saddle-shaped jaws are produced.

The percentage of small and large teeth is small. The teeth, unlike the other tissues of the body, develop from the periphery, their development beginning as early as the sixth week of intra-uterine life. Calcification sets in immediately, and the shape and size of the teeth are determined while the surrounding tissues are yet soft. The calcific material, which is first deposited on the outer surface, protects the inner part of the tooth-structure, and unless some constitutional disturbance like eruptive fevers, or an inherited diathesis, impair nutrition, the teeth will develop normally. Generally speaking, the teeth are of the same size to-day that they have been for ages. When teeth are usually large or small they may be accounted for as an inheritance.

I have described the condition of the jaws and teeth that are not intimately connected with the three general pathological and physiological abnormalities of the jaws already mentioned, viz., excessive development, arrest of development and inharmonious development of the bone tissue. The feeble-minded patient affords ample opportunity for the study of these abnormal conditions and of bone tissue. The text books describe these conditions but meagerly, and the profession generally speak of all enlargement of tissue as hypertrophy, and of all tissue not strictly up to normal as atrophied. The different causes of these conditions are not sought after, nor are they well understood.

When excessive development of the jaws exists, the circle of the jaw is larger than the arch of the teeth. The teeth are seldom irregular under these conditions This inharmonious development prevents the proper articulation of jaws. Excessive and inharmonious development are seen less frequently than arrested development. This[4] is due to lesions of the nerve centres, and constitutional diseases such as syphilus, scrofula, rickets, race crossing, climate and soil, and early extraction of the teeth. The result of arrested development of the jaw is the arch of the jaw is smaller than the arch of the teeth, and consequently the teeth are irregular. The principal types being the V and saddle and kindred shaped arches. The above statistics indicate that irregularities of the teeth follow neurotic lesions, as a natural result.

Any disturbance of the function of nutrition naturally affects the osseous system. Kingsley and others, including myself, have seen that some of the lower grade of idiots, deaf dumb or blind, possess well developed jaws and teeth. It is a fact admitted by all pathologists that under certain environments the tissues of the body develop abnormally. This occurs in the osseous system. This being the case large jaws and regular teeth are sometimes seen.

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[4] See Dental Cosmos, 1888 and 1889

BATHING AND BOATING ACCIDENTS.

Read in the Section of State Medicine at the Fortieth Annual Meeting of the American Medical Association, June, 1889.

BY IRVING C. ROSSE, A.M., M.D.,
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PROFESSOR OF NERVOUS DISEASES, GEORGETOWN UNIVERSITY.

I am not sure that I could have selected a more appropriate time and place to bring to the notice of the profession some of the accidents that occur in bathing and boating. Even here in lovely Newport, where I have spent many happy days, sad cases of drowning occur every season, and it is safe to say that most of them arise from inexperience in swimming and are consequently preventable. As a physician and practical athlete, I may show more than ordinary enthusiasm in making a plea for the educational, hygienic and curative advantages of an exercise that I have practiced at many different places over the world from the tropics to the Arctic Ocean, and in such places as mountain lakes, the mid-Atlantic, and even in a volcanic crater some 2,000 feet deep.

The frequent accounts of drowning that one reads constantly in the daily papers at this season, aside from those occurring in the late floods, instead of dampening rather rekindle an ardor to which is added a tinge of regret consequent upon the reflection that most of these accidents arise from inability to swim; for with only a moderate knowledge of this easily acquired art, many lives may be saved and much bereavement prevented. Philanthropic motives, if no other, would therefore prompt one to give the matter more than passing notice. In view of the surprising great number of deaths from drowning, it is lamentable in this practical age that the useful art of swimming takes such small part in the training of youth. Young minds are crammed with all sorts of useless information to the neglect of what is essential to the preservation of personal health and the saving of life. Legislators vote large sums of money for doubtful jobs, yet refuse to countenance the establishment of swimming baths in our cities. The police regulations of most of our large towns, conceived in the interests of extreme prudery, virtually tend to make swimming one of the lost arts. Those of the District of Columbia, for instance, were evidently framed in the same spirit of protest which caused a former Governor of Maryland to object to midshipmen swimming from a certain wharf in the Naval Academy because the ladies could see them with their opera glasses.

That people do not fully realize the importance of swimming is a trite observation, but a truth none the worse for frequent repetition, and allowing it to lie fallow will never bring about the desired reformation. Long personal experience with swimming so convinces me of its usefulness that, if it came to a choice between knowing the higher mathematics or how to swim, I should choose the latter every time. At many of the larger schools in England lads are obliged to pass in swimming before they are allowed to go out in boats. This rule, established at Eton in 1840, has been effectual there in the prevention of drowning, only one case having occurred since that time, although the swamping of boats has been frequent. A yearly average of 150 boys learn to swim and pass the test. It is, of course, possible to enforce such a rule in schools and among bodies of individuals where discipline obtains, yet this manly and invigorating accomplishment is neglected both in educational establishments and in the Army. Swimming is taught at our Naval Academy, but at West Point it is not, and most of the cadets are lamentably deficient in this respect. The statistical exhibits of our late war show the strongest reason why a soldier should know how to swim. The aggregation of killed in action is shown to be 67,058, while there were drowned 106 officers and 4,838 men. The small regular Army lost 5 officers and 89 men from this cause; the U. S. colored troops 6 officers and 289 men; and the volunteers furnished a large contingent, the State of Ohio alone having lost 14 officers and 770 men from drowning. Just think of a number amounting to five regiments perishing from an easily preventable cause—for the majority of these men were drowned in such circumstances as fording a stream, crossing narrow rivers, or by the upsetting of small boats when a few strokes would have sufficed to save life.

But the best swimmers are often drowned, say the cynical wiseacres. True, a good swimmer sometimes meets with that misfortune, but the occurrence is so rare that for that very reason a vivid effect is produced on the imagination and memory of unthinking persons who, accustomed to make *post hoc* conclusions, never for a moment consider the greater number who are saved by knowing how to swim.

Among other prevailing and groundless objections to swimming are the production of colds, the danger of heart failure and the risk of being bitten by sharks. As to colds and the effects of the cold immersion in the water, I should say that the danger therefrom is greatly exaggerated, if my own experience is any guide, for I have never had a cold from swimming in icy water, even under the Arctic Circle. On the contrary, one of the severest colds I ever had was contracted in Washington some years since with the thermometer high in the nineties, which necessitated a visit to the seashore, where after two swims the cold disappeared as if by magic.

There are, of course, many weak people whose chest organs are in such condition that they should not venture to swim; but I am convinced that the neglect to learn swimming in childhood and the absence of this eminently hygienic exercise are responsible for many flabby hearts, weak lungs, and torpid minds.

In addition to being generally tonic and bracing, the effect of swimming considered in itself is to develop the muscular system and to exert a favorable influence on the great bodily functions, as the digestion, nutrition, respiration, circulation and innervation. No other exercise with which I am familiar gets the heart and lungs in better working order, and none is better for getting one in what sporting men call "condition." After two weeks' daily swim in salt water I have run a measured mile on a beach with very little more embarrassment to circulation and respiration than if I had walked the same distance.

Aside from the physical, another advantage of a high order accrues in the way of happy moral influence. Boxing, sword-play and several other manly pastimes will do much to develop courage, prudence and cleverness; but the cold-blooded quiet and presence of mind which aid us to avoid danger or to conquer it, or to lend ourselves to an act of devotion, are best cultivated by the exercise of swimming. What, for instance, is a more brilliant and commendable act of devotion than that of a dauntless swimmer who, regardless of self, plunges overboard at the risk of his own life to save a fellow-being from drowning?

As a curative means, swimming also comes in for praise. In this respect it is superior in many conditions to the so-called "tent cure," to massage, electricity, or drugs, and may be employed with benefit in scrofula, chlorosis, convalescence, insomnia and many other nervous diseases, as chorea and hysteria. The latter malady especially, I have known to be cured after a course in the swimming baths of Alameda, Cal.; and my experience as a neurologist leads me to recommend swimming as one of the best adjuvants in the treatment of nervous diseases.

The danger to be apprehended from sharks is more a figment of the mind than a reality. I have no personal knowledge of shark bites, although I have done much swimming in such infested places as the Gulf of Mexico, the harbor of Cadiz, the Azore Islands, Bermuda, Tybee, the mid-Atlantic and other places where these voracious animals are reputed to gobble up such small bait as a man at a single mouthful. For years I have made it a point to question sailors and fishermen in various parts of the world as to their actual and personal knowledge of shark bites, and though the inquiry has called forth some remarkable fish stories, I have met but two people with any personal knowledge of the matter. Admiral Porter tells me of an instance in which he saw a man attacked; the other person, a pilot at Bermuda, knew of a man that had his hand bitten by a shark just as he was pulling in a hooked fish from the water into his boat. Sharks often collect around the carcass of a whale while it is being "cut in," and men sometimes slip overboard among them, yet after a long residence in New Bedford and a somewhat extended experience with the Pacific Arctic whaling fleet, I have never met a whaleman who could tell me of a man that had been bitten. My friend, Mr. Truxton Beale, of Washington, a short time since, when a passenger on the Pacific Mail, showed his unbelief in shark stories by swimming across the shark infested harbor of Acapulco, although warned by the captain of the ship that he would be eaten up before he got a hundred yards away.

Traditional accounts of the rapacity of sharks are as extravagant as the records of some of the old writers who tell of dead sharks cast upon the shores of the Mediterranean of such size that men walked into the mouth and down the throat in order to inspect the stomach. Even Rondelet, in his History of Fishes, speaks of these animals as having swallowed men in entire suits of armor.

Documentary evidence as to shark bites is also very scanty. During the last fifty years, soldiers by the tens of thousands have swam at Fort Monroe, Va., yet there is no record of one having been bitten by a shark, nor have I been able to ascertain that any accident of the kind has occurred at Malta or Gibraltar. There does not appear to be a record of any one ever having been bitten by a shark off the British Isles. I have been unable to ascertain that a single bite of the kind is reported among the medical records of our War or Navy Departments or those of the Marine-Hospital. In a book about the West Indies, Mr. Charles Ives says it is singular that so few facts are reported which indicate the danger from Bahama sharks, and that the divers continue to be so numerous and bold. He has heard of but one instance in which a Nassau shark has dined upon a negro, and the report in that case is not well authenticated.

The *New York Herald*, a few years ago, gave an account of a boy who was bitten while swimming in East River, and afterwards died at Bellevue Hospital.

Medical literature has but few reports of shark bites. After ten years' diligent search I have found but seven references, the earliest in the *London Medical Gazette*, 1823, and the latest in the London *Lancet*, 1886. The bites occurred in Australia, South Africa and India. The Hooghley and Ganges Rivers are the worst places in the world for sharks and alligators. A particular kind of shark, the *Carcharras Gangeticus*, which is very fierce and bold, sometimes dashes among the crowds at the bathing ghats, and has been known to bite a boy in two feet of water. All persons bitten at these places generally die from the bite, for the reason that the shark, living on carrion portions of which stick between the teeth, carries infection to those whom it may afterwards bite. The former habit of throwing the dead in the river is supposed to account for the boldness of these particular sharks in attacking the human species.

Even admitting the occasional accident of shark bites, the danger therefrom is almost infinitesimal compared with railway travel or even accidents from horses; and neither this unimportant drawback, nor any other that I have mentioned, should have the least weight in preventing the cultivation and spread of an accomplishment that every one should countenance with a view, not to the renewal of the legendary exploits of Leander and Byron, but as a step in that branch of social evolution which better physical development and improved health tend to promote.

THE PHARMACOPŒIA OF 1890.

Read in the Section of the Practice of Medicine, Materia Medica and Physiology, at the Fortieth Annual Meeting of the American Medical Association, at Newport, June, 1889.

BY D. W. PRENTISS, M.D.,
OF WASHINGTON, D. C.

The decennial convention for the revision of the U. S. Pharmacopœia meets in Washington, D. C., in May, 1890. This matter of a Pharmacopœia and its periodical revision is of greater importance to physicians than is generally supposed. The Pharmacopœia is the authoritative guide to the pharmacist for the selection of drugs and the making of preparations from drugs. It contains such as are considered by this convention of sufficient importance to justify official sanction, and each ten years those which have not stood the test of experience are dropped, and others that within that time have been discovered to be of decided value are added.

The idea prevails much too generally in the medical profession that the Pharmacopœia is a book that belongs to the pharmacists *per se*, and I fear a large number of physicians have rather a confused idea as to what this book is. Many, I know, have within a very short period confounded it with the dispensatories.

When the convention for the decennial revision met in Washington in 1880 it was my fortune to be on a committee to provide for the entertainment of the visiting members. In this capacity I had occasion to call upon the physicians of the city for contributions to that end, and was met in many instances by the inquiry, "What have we to do with entertaining this convention? This is an affair of the pharmacists." But so far from being an affair of the pharmacists', a glance at the personnel of the convention of 1880 shows that of the sixty-four delegates present twenty-two were pharmacists and forty-two were physicians—nearly twice as many, and justly so, for the interests of the physicians are paramount in that the Pharmacopœia is directly dependent on their needs of drugs and drug preparations in professional work.

The convention is, however, necessarily composed of representatives of both professions, because upon the pharmacists devolve the duty of determining the best processes of making the preparations, etc. In the work of revision the physicians are more particularly interested:

1. In deciding as to what drugs and preparations shall be added to or dropped from the last Pharmacopœia.
2. In indicating the forms in which they desire to have drugs prepared for convenient use.
3. In prescribing the strengths of various preparations, such as fluid extracts, tinctures, etc., to secure, as far as possible, uniformity.

On the other hand, the portions of the work that come especially within the province of the pharmacist are:

1. The selection and care of drugs, that they may be of good quality and of uniform strength, and be properly preserved.
2. The determining of the best processes of making preparations to secure the same end.

Both professions are interested equally in

1. Securing uniformity of weights and measures.
2. Encouraging the establishment of an international Pharmacopœia.

As also are both pharmacists and physicians interested in the various tables, "thermometric equivalents," "percentage and special gravity," "solubility," etc., which appear in the book of 1880; and though occupying a very modest position, they represent an immense amount of work.

The work of revision in 1880 was by the convention placed in the hands of a revision committee of twenty-five, of whom twelve were physicians and thirteen pharmacists. The labor of completing the work, however, was not so equally divided, an immensely larger share falling to the pharmacists, especially to the energetic chairman, Prof. Charles Rice, of Bellevue Hospital, New York, to whom too much credit cannot be given for his indefatigable industry. It was manifestly proper that the pharmacists should have the larger share of the work, for the bulk of the volume is devoted to the details of pharmaceutical processes. But there is much coming within the province of the physician that may very advantageously receive his attention, and it is hoped that physicians will give it more attention in 1890. Already the pharmacists are actively at work in the field. At the meeting of the American Pharmaceutical Association, now being held in San Francisco, no less than fifty-six distinct queries upon this subject will be reported on and discussed, mostly technical, but others of general interest, such as 41 and 42: 41. Cannot the nomenclature of the Pharmacopœia be improved? 42. What system of weights and measures should be adopted in the next revision of the Pharmacopœia? will be recognized as being of general interest. I am not aware that any official action has been taken by this Association.

It is now too late to do more than appoint the three delegates to the convention, to which we are entitled, for the convention meets in May, 1890, before the usual time of meeting of this association, and there would be no opportunity for a committee to report. We can, however, appoint the delegates, and I have no doubt the Association will do this, and perhaps give them instructions expressing at least the value we place upon the periodical revision of our Pharmacopœia.

Among the most important measures to be decided upon will be:

1. In regard to the strengths of galenical preparations as to uniformity.
2. Uniform system of weights and measures.

First.—In regard to the uniformity of strengths of such preparations as tinctures, fluid extracts, solid extracts, wines, etc. Time does not allow a full discussion of this question, but I would like to say a few words to indicate the importance of uniformity in this direction. If we could make the liquid preparations of crude drugs of a definite percentage of strength, does it not at once appear that only the dose of the crude drug would have to be learned? For instance, fluid extracts are of 100 per cent. strength; their dose is the same as the drug from which they are made. Then make all officinal tinctures 10 per cent., and their doses will be one-tenth that of the drug from which they are made. Make solid extracts 500 per cent. strength, as is now the solid extract of ergot. What is more simple than the directions for making this extract: "Fluid extract ergot, 500 parts; evaporate to 100 parts." Then the dose of a solid extract would be five times that of the drug.

An attempt was made in this direction of uniformity in the last revision. Liquid preparations of opium were made 10 per cent., except paregoric. In other tinctures those approaching 10 or 20 or 5 per cent. were made of those strengths respectively, so that we have now

20 per cent	23	tinctures.
15 "	9	"
10 "	23	"
8 "	6	"
5 "	2	"
Irregular	12	"
Total	75	"

It is apparent from this list of seventy-five tinctures that this classification of strengths is of no assistance to the physician or medical student in remembering doses. Every teacher of materia medica will appreciate the importance of simplifying the labor of students in the line of dosage. These tinctures should all be of 10 per cent. strength. I have shown in another place that this is entirely feasible.

It has been said by high authority that our present Pharmacopœia is now the best in the world. If we still further perfect it, it will be taken as the guide in making the coming international Pharmacopœia, concerning which a congress meets in Paris on the 1st of August of this year.

Second.—A second important consideration is the question of uniform weights and measures. This will also be considered by the congress in Paris on August 1, and we need not doubt what system will be adopted. The metric system is already international in science, and is in use in all civilized nations except England and Russia. Where the metric weights and measures are used the proportion in every formula is expressed in the per cent. ratio. It is becoming more and more important every year for the educated physician and man of science to be familiar with metric terms.

A great proportion of medical literature comes to us from nations using metric terms, and it will be noticed that medical journals, in quoting from foreign publications, now usually give the metric terms without translating them into our own cumbersome weights and measures.

Third.—A third subject, the importance of which can hardly be estimated, is the necessity of devising some plan for securing uniformity in strength as represented by the active principle of many preparations, as tinctures and fluid extracts. For example, such crude drugs as aconite root, belladonna leaves and digitalis leaves vary greatly in their strength, even though the best care is exercised in their selection. By the present system of making preparations the latter necessarily must vary in like proportion, and this is undoubtedly the cause of many disappointments in therapeutic effects. With tincture of digitalis and tincture of cannabis indica it is necessary, in individual cases, to begin with a minimum dose and gradually increase the dose until the desired effect is obtained. The remedy for this condition of affairs is obvious. A standard strength of the active principles should be fixed upon, and the value in active principle be determined by assay. This, if honestly carried out, would be a great improvement upon the present system. It would entail more labor and greater care on the manufacturing pharmacists, but it would be to their interest to carry out faithfully such requirements, for physicians would not be slow to discover whose preparations were most reliable.

There are other matters in this connection that might perhaps be profitably discussed, but as the object of this paper is only to call the attention of my colleagues to the importance of the revision of the Pharmacopœia which will be made in 1890, I will no longer impose on your attention.

AN OPERATION FOR UTERINE FIBROID.

Read in the Section of Obstetrics and the Diseases of Women at the Fortieth Annual Meeting of the American Medical Association, June, 1889.

BY A. B. BOWEN, M.D.,
MAQUOKETA, IA.

Subperitoneal or extra-uterine fibroids are justly regarded, in the treatment, as one of the most difficult problems in surgery, hence this report.

Mrs. W., æt. 38, and mother of four children, detected a movable "lump" or tumor in the left iliac region some three years prior to the operation for its removal. She attributed its cause to overexertion and fright, caused by a prairie fire that consumed her home. In a few months it had attained a size that inconvenienced her. She received little benefit from her local physicians, whom she consulted from time to time, there being little uniformity of opinion in diagnosis and treatment.

Menorrhagia and dysmenorrhœa were well marked characteristic symptoms, and of late a frequent recurrence of hæmorrhage has annoyed and weakened her. I first saw the case in April, 1883; found the patient confined to her bed by an enormous abdominal tumor, evidently fibroid; her flesh and strength were much exhausted, and she entertained little hope of her deplorable condition been benefitted by treatment.

I of course gave her little encouragement, but that little through surgical resources. The condition of the patient was so hopeless that it inspired desperate resources, and after calmly listening to the details of the operation, she resolutely determined to risk the chance, and even demanded the operation. Her financial condition was such as to deprive her of the skill of an expert, or specialist, and I was urged to this formidable operation and my first *laparotomy*. After what appeared to me to be proper preparations for so formidable an operation, and in spite of the meagre encouragement found in the literature of uterine fibroids, from Thomas, Emmett, Goodell, Schroeder and Gross, the time was fixed, the assistants selected, and the preliminaries arranged.

Friday, May 11, 1883, the operation was done. The usual incisions through the linea alba below the umbilicus, enabled me to explore the abdomen for adhesions, which were slight and easily separated between the tumor and the peritoneum, but the omentum had formed intimate and extensive union with the tumor; its large venous trunks entering and blending with the tumor. Several of these vessels were ligated and divided between the silk ligatures, and the omentum entirely detached. The abdominal incision was extended to the ensiform cartilage, which extensive incision barely offered room for the passage of the fibroid growth, some two feet in diameter.

The tumor was rolled out of the abdominal cavity, and its attachments sought for, which proved to be so firmly adhered to the floor of the pelvis, including the pelvic viscera, that I deemed its separation fatal to the patient, her condition being alarming in the extreme from shock. Hypodermics of brandy were given, and inhalations of nitrate of amyl, to arouse if possible her waning vitality. Meanwhile the toilet of the peritoneum was hastily and imperfectly arranged, the enormous fibroid mass was rolled back into the abdomen, and its walls with difficulty made to meet over and around it. Sutures, long adhesive strips, and a flannel bandage retained them in place, after iodoform and absorbent cotton had been applied to the wound.

The patient was sustained and reaction encouraged with artificial warmth, morphine and atropine hypodermically, and such other treatment as seemed proper. It was hardly expected, by myself or assistants, that reaction would take place, so profound was the shock. The patient's home being some five miles in the country, I did not see her till next morning, and then took my post-mortem case with me, as I confidently expected to use it. To my surprise reaction was complete, the mind clear, and there was entire freedom from fever and pain. The patient continued to do well; the wound healed principally by first intention, but slight fever attended the healing, and but very little peritoneal inflammation was encountered. After reaction neither pulse or temperature were above 100°. The patient regretted I did not complete the operation.

Over six months of languishing and suffering succeeded, but very little acute pain attended it. November 21 I made the autopsy and found a suppurating fibroid, removed thirty-two pints of pus. The tumor was firmly adherent to the abdominal walls. The solid portion weighed thirty pounds and had no pedicle. The opinion held at the autopsy was, that its removal would have been fatal, at the time of the operation.

ADDISON'S DISEASE, WITH A REPORT OF AN AUTOPSY.

Read in the Section of the Practice of Medicine, Materia Medica and Physiology, at the Fortieth Annual Meeting of the American Medical Association, June, 1889.

BY W. S. WATSON, M.D.,
OF MATTEAWAN, N. Y.

About all that seems to be known of this disease is that it is due to some lesion of the suprarenal capsule. We deem it almost needless to enter into any description of those glands, nor shall we attempt to add much or venture an opinion as to the part they subserve in the human economy.

The disease under consideration presents some well marked symptoms, differing in degree; but rarely do we find all of the various symptoms combined. Generally one or more sets of well defined symptoms predominate, to the exclusion of others. In most instances that have come under our observation there was persistent nausea; later came vomiting, gradual asthenia, marked local bronzing, more or less rapid loss of flesh during the acute attacks of gastric disturbances, which occurred at intervals. The sufferers from this peculiar ailment are irritable, cross, given to periods of despondency. Failure of strength is one of the earliest symptoms, though this condition may come on slowly or rapidly. When quiet, the patient feels strong and fairly well, but a little exertion causes him to feel faint and weak. There is a lack of energy, and oftentimes there is a willingness to lie in bed day after day. There is also muscular debility, which is irregular, the patient being better one day and worse the next.

The progressive discoloration of the skin is not, we think, that of a bronzing, as has generally been stated, unless the sufferer possesses a naturally dark skin. In the blonde, or light-complexioned individual, we have marked changes of the skin—that of a bleached or bloodless appearance, assuming at the near approach of death a jaundiced hue, without the heavy, dark, pigmentary deposits about which so much has been said.

If we accept Professors Kölliker and Bergamon's microscopical anatomy of these ductless glands, and which our own observation corroborates, they are in structure small, somewhat flattened glandular formations situated behind the peritoneum and in front of the upper end of each kidney, having an external, cortical and internal medullary substance.

Microscopical anatomists differ in their views respecting these minute columnar masses. The medullary portion is composed of nuclei and granules having numerous small veins. The nerves are also numerous, and belong to the ganglionic, or sympathetic, and the pneumogastric. The blood-vessels and nerves lie in the stroma of the connective tissues, forming two kinds of capillary plexuses, one being in the cortex, having elongated meshes, the other in the medullary substance. The arteries, some twenty or more, arise as numerous small vessels from neighboring larger trunks, as the phrenic, aortic and renal, and thence penetrate directly into the medullary substance, or ramify into the cortical. Kölliker says these vessels empty on the right side into the vena cava; on the left, into the renal vein. Reasoning from the standpoint of these glands, they being so abundantly supplied with blood-vessels and nerves, and considering their origin and insertion, there remains but little ground for doubt as to their importance. Although we remain in darkness as to their exact function, yet we feel sure that the grave symptoms attending diseased conditions of the supra-renal glands are explainable when we consider the nervous connection, the venous and the arterial supply to these glands. The asthenia attendant may reasonably be attributed to the prolonged reflex irritation of the nerve centres. Heart disturbances, weak pulse, shortness of breath upon slight exertion, due to reflex implication through the pneumogastric and the phrenic nerves, the extreme nausea and vomiting during the last stages of this peculiar ailment, point to the solar-plexus and ganglia.

Brown-Séquard found that ablation of the supra-renal glands or capsules was uniformly fatal, and he believed death to be due to the retention of some poisonous substance in the circulation which it is the office of these glands to remove. Other men, equally eminent, claim that death following the removal of the supra-renal capsules is certainly attributable to hæmorrhage or injury to the nerves. We are inclined to the belief of Brown-Séquard, since it is true that inflammation of these ductless glands do bring about marked pathological changes or functional derangements. The conclusions at which we have arrived are based upon autopsies made by us, together with information gleaned from such authorities as Köllicker, Brown-Séquard, Carpenter, Addison, and others. We should look upon the glands under consideration as important, and regard them as possible eliminators, even though possessing no distinct efferent ducts. It is conceded by physiologists and microscopists that these glands are more abundantly supplied with blood-vessels than any other glandular body of similar proportions, and also with a larger number of nerves.

We shall describe a case of "Addison's disease" which was followed by an autopsy upon the patient, Mr. W. H. Cook, aged 40 years, who presented a pronounced bronzed appearance for about four years previous to his death. He was of a dark, bilious complexion naturally, possessing a delicate constitution, and a hatter by trade. During the last two years of his life he complained of what he thought were bilious attacks, which caused pain in his kidneys. His family history gives no evidence of phthisis; it is believed that one sister died of cancer of the womb. Mr. C. had been treated by several physicians before going to Roosevelt's Hospital, New York City, in which institution he remained for some weeks, receiving no benefit. He returned to his home, where we were called to see him on November 22, 1888. We found him suffering from the effects of a decided chill, which was due to exposure in a rainstorm while attending the funeral of his wife. The surface of his entire person was cold, his pulse slow and weak, constant nausea and vomiting, complete loss of appetite, skin much bronzed—in fact he presented a decided mulatto appearance. He was very much emaciated, nervous and restless. His nervous system had just received a severe shock by the loss of his wife, who died two days previously. He complained of some pain in the stomach and in the region of the kidneys. He was inclined to lie in a semi-comatose condition a part of the time; at times his mind was clear, and he could converse intelligently.

Nearly all the medicine given to him was rejected, though some stimulants were retained, and external warmth was applied, which had the effect of restoring the circulation sufficiently to get him warm. We visited him daily until December 1, when he died. On December 2 we made an autopsy. The heart was first examined and presented nothing abnormal. The stomach was almost normal in appearance, showing possibly a slight evidence of recent congestion; the liver and kidneys were normal in appearance; the supra-renal capsules on the exterior were normal, with the exception that both were considerably enlarged, the left one being about one-fourth the larger. On examination of their interiors there were found evidences of chronic inflammation which had passed successively through the stages of fatty and cheesy degeneration. Some portions of each pelvis were mere fibrous sacs containing a puriform liquid and some gritty particles, the calcareous results of cheesy degeneration. The internal cell masses of a large portion were almost obliterated and the medullary substance considerably broken down, apparently from the results of inflammation.

Question.—What is the cause of the inflammation of these ductless glands, and how do they bring about such grave symptoms when diseased?

MENTAL WEAKNESS RESULTING FROM THE PRESENCE OF AN ENCHONDROMA OF THE SEPTUM NASI.

Read by title before the Section of Laryngology and Otology, at the Fortieth Annual Meeting of the American Medical Association, June; 1889.

BY W. PEYRE PORCHER, M.D.,
OF CHARLESTON, S. C.

The following case exhibits a remarkable sequence of cause and effect, even to a condition bordering on mental abberation, from the presence of a cartilaginous spur projecting from the septum nasi, and pressing against the contiguous turbinate. That the recovery was a direct result of the treatment instituted, is beyond a doubt for the following reasons:

1. The patient's illness had existed for over a year, and was at the time of his first visit to me distinctly worse than at any previous time.
2. He had just returned from a large watering-place, where he had been for six weeks, and during that time he had not only received no benefit, but his symptoms had increased to such an extent that his return home became imperative.
3. His improvement after the removal of the growth was immediate and permanent, and he is at present enjoying robust health.

H. F. P. White, aged about 32, avocation planter. His history was, that for two years previous he had been subject to *frequent attacks of coryza*, accompanied with vertigo, headache, great torpidity of bowels, and general malaise. During this period he had two attacks of pleurisy, and as a result of it his nervous symptoms became especially prominent. He had constant and prolonged insomnia, hysterical pains, noises and jumping movements in his left side. The latter annoyed him to such an extent that he tore open his under clothes over that region in the effort to get at or remove the cause of the unpleasant sensations.

His attendants thought he was suffering from melancholia, and he was advised to visit one of the springs, in hopes that he might derive benefit from the change; and he therefore spent six weeks at a large watering place, as above stated, but returned home extremely nervous, and without having received the slightest benefit. He was able to sleep but very little at night, continually brooded over his condition,—thinking that he was doomed to consumption on the one hand, or to insanity on the other; both being hereditary taints in his family; and on this latter account some of his near relatives thought he had softening of the brain.

It was in this condition that I first saw him, scarcely able to control his nervousness, and with but little hope of ever regaining his former mental or physical condition, as he had been unable to attend to his business for over a year.

It was at once apparent that his mind must be set at rest, and this I did by assuring him that his nervous symptoms could be controlled, and ordered him a hepatic stimulant and laxative, as follows: ℞. Pil. hydrarg., grs. v; podophillin, gr. ¼. M. S. at once. Also, ℞. Fl. ext. stillingi sil., ʒ v; tr. nucis vom., tr. belladonna, tr. physostigmatis, āā ʒ j. M. S. in water before meals.

While making this general examination, I noticed that he had a frequent tendency to "sniffling," and this led me to make a rhinoscopic examination. A cartilaginous projection was discovered jutting off from the septum and in contact with the left inferior turbinated bone. It was papillomatous in character, and very indurated. It caused him to bend his nostrils forcibly over to that side to get breath, and to clear them of accumulated secretion. He was entirely unaware of the presence of this growth. A small portion of the apex was cut away, sufficient not only to relieve the pressure but to leave a vacant space between it and the turbinate.

He received no additional treatment, except general advice as to hygiene, etc. His subsequent history was, that his insomnia and general depression rapidly disappeared.

A relative occupying an adjoining room informed me that she first became aware of his improvement by *an absence of the frequent sneezing and clearing of his throat on first awakening in the morning*, to which he was addicted; and he has since informed me that he has never been so free from coryza as he has been since the removal of the growth, not having had one attack in twenty months.

Nor has there been any recurrence of the pleurisy. His health is now completely restored and he no longer fears consumption or insanity. Here we have a distinct sequence of cause and effect: recovery following the removal of the exciting cause.

THE SURGERY OF THE SPINE.

Read in the Section of Surgery and Anatomy, at the Fortieth Annual Meeting of the American Medical Association, June, 1889.

BY J. WILLIAM WHITE, M.D.,

PROFESSOR OF CLINICAL SURGERY IN THE UNIVERSITY OF PENNSYLVANIA; SURGEON TO THE UNIVERSITY, PHILADELPHIA AND GERMAN HOSPITALS.

Dr. White divides the spinal troubles which may necessitate surgical interference into three classes: traumatisms, caries, and neoplasms. He reviews the history of the surgery of these conditions, gives the details of two cases in which he performed resection of the spine, and reaches the following conclusions:

1. The objections urged against operative interference in spinal traumatisms were partly theoretical (hæmorrhage, frequency of absolute destruction of the cord, pressure from inaccessible fragments of bone, etc.,) and have been shown to be unsupported by clinical facts. They were largely due to a well-founded dread of *a*, the shock, in the cases operated on in preanæsthetic times, and *b*, consecutive inflammation, suppuration and pyemia in pre-antiseptic periods. The later results, which now constitute our only safe basis for generalization, are distinctly encouraging, and resection of portions of the vertebræ in fractures, possibly even in dislocations, should be recognized as an eminently proper operation and in suitable cases altogether warranted by the facts in our possession; and further, such cases are by no means rare or exceptional.

2. There can be still less doubt that the testimony of pathologists and practical surgeons indicates that the cause of the paralysis of Pott's disease is in many instances an extra medullary proliferation of connective tissue, assuming the density and proportions of a neoplasm, occupying the space between the dura and the interior surface of the laminæ, not apt to be associated with intramedullary changes or with destructive degeneration of the cord, and very frequently removable by operation.

3. Every case of focal spinal lesion, thought to depend on a tumor and not distinctly a malignant or generalized disease, should be regarded as amenable to operative interference, no matter how marked the symptoms of pressure may be or how long continued.

4. The method of extension, as recently revived, is well worthy of preliminary trial in the first two classes and in obscure cases thought to belong to the third class. It has not yet been tried in a sufficiently large number of cases to establish its exact limitation, but it is unquestionably a therapeutic measure of vast importance in spinal injury and disease.

It is customary and proper in deciding upon any serious surgical procedure involving risk to life, to consider well the prospects of the patient in the event of non-interference and to be largely influenced by them. Looked at in this light the operative surgery of the spine as regards traumatisms, caries and neoplasms may fairly be said to have a rapidly widening field and to deserve more serious and careful consideration by practical surgeons than it has received for many years.

THE HISTORY AND EXHIBITION OF A DOUBLE-HEADED MONSTER.

Read in the Section of Obstetrics and the Diseases of Women, at the Fortieth Annual Meeting of the American Medical Association, June, 1889.

BY E. F. WALKER, M.D.,

PROVIDENCE, R. I.

This specimen which I have the pleasure to show you, is a monster of the type known as Ischiopagus. Unfortunately the history of the labor is very meagre and incomplete, as the woman, who gave birth to it, was attended by a midwife, of not a very intelligent class and the details of the process are usatisfactory. I have tried to see the patient herself, but have not been able to accomplish my desire. However, such details as were obtainable I submit, asking your indulgence for their incompleteness.

Mrs. C., 30 years of age, born in Ireland, married, and a primipara. Early in the afternoon of July 15, 1888, labor pains first began and at 7 P. M. the midwife arrived and took charge of the case. The pains at that time were strong, and an early completion of the labor was anticipated. She continued to have very great pain until one o'clock in the morning, when the midwife "broke the waters to hurry her up," and states that from this time until the end, her pains were the most severe she ever saw, in fact she says they came so close together that the woman had no rest; finally at five o'clock, or four hours after the discharge of the amniotic fluid, with one long and severe pain, the mass was born, being followed in about five minutes, by the spontaneous expulsion of the placenta. There was no very great hæmorrhage; in fact she states the woman did not flow as much as most women do. I enquired as to the condition of the perineum, but could not get any satisfactory information, but judge that it could not have been seriously injured as the patient made a rapid recovery, and at the end of a week was doing her own housework. Since then she has enjoyed her usual health and is now pregnant again.

The monster lived until about seven o'clock the next day, or twenty-six hours in all. When born it cried, and in the words of the midwife, "both ends took milk from a spoon and swallowed quite greedily." Its weight at birth was between fifteen and sixteen pounds. There was but one placenta and one cord; there was no history of fright or injury and the woman had not experienced any unusual symptoms during her pregnancy, and had no reason to assign for any such unusual condition.

The mass is of crescentic shape—its longest surface following the line of the abdomen, which from vertex to vertex measures twenty-one inches. It consists of two bodies joined together at the buttocks, with a head at each end. The larger one has a trunk, two arms and two legs well developed; the other or smaller one has the right arm and right leg well developed, but a deformed left forearm and hand, and a deformed left foot and leg (the hand shows but three fingers, of unequal length). The left foot has a shortened little toe, due probably to the absence of its metatarsal bone, and the third and fourth toes are webbed. At the site of the umbilicus of the larger child there is a placental shaped mass, measuring 4½ inches by 3½ inches, with its convexity outwards and the cord, which went to a normal placenta emerging from the left side. This mass is firm in consistency, and lobulated. The smaller of the two twins has a protuberance springing from the cervical region and suggestive of spina bifida, is soft and apparently contained fluid in its recent condition. This mass measures in its longest diameter four inches and in its shortest three inches. At the site of the anus in the larger twin, there exists a suggestion of an imperforate one.

Lying between the left thigh of the larger and the right thigh of the smaller twin, *laterally*, is the vulva, the thigh of the left closing the vagina on that side, and on the right there is an undeveloped labium externum.

MEDICAL PROGRESS.

TREATMENT OF INFANTILE ECZEMA.—1. Eczema intertrigo: Seek to combat the cause (generally acid diarrhœa) then apply cold compresses (solution of boric acid, 5 per cent., and water in equal parts), or if the surface oozes considerably dust it over with talc or oxide of zinc. Insist on great cleanliness.

2. Eczema of the head: If the child is fat modify its diet; if scrofulous give cod liver oil with phosphorous or an arsenical preparation (ocidum arsen. 0.005. grm. Boil with distilled water 40.0 grm. Dose one coffeespoonful). Suppress any occasional external cause, such as pediculosis (sublimate 1-1000) then soften the crusts with oily inunctions and apply a boric acid pomade:

℞.	Acid. boric.	1.5 grm.
	Zinci oxidi	5.0 "
	Vaseline flav. ad	30.0 "

Or use Wilson's pomade:

℞.	Benzoës pulv.	1.0 grm.
	Axung. porc..	32.0 "
	Cola, adde zinc. oxyd	5.0 "

In the squamous forms:

℞	Hydrarg precip. alb.	1.0 grm.
	Bals. Peruv.	5.0 "
	Ung. Wilson ad	30.0 "

3. Eczema of the trunk or limbs: Anti-scabetic treatment is necessary (bals. Peruv. or styrax and olive oil in equal parts).

It suffices generally to apply powdered medicaments upon the diseased surface after using vaseline.

In squamous eczema with infiltration of the skin rub twice a day with a few drops of oil of cade, then dust with starch or apply vaseline. At the end of two to four days bathe the diseased part with tepid soap suds and after twenty-four hours recommence treatment with oil of cade.

Tar is not to be used in the eczema of children. —*Archiv. für Kinderheilkunde.*

SAMBUCUS NIGRA AS A DIURETIC.—M. G. LEMOINE, of Lille (*L'Union Médicale*), has made a study of Sambucus nigra (elder) the properties of which were discovered by the Ancients. The soft white bark next to the wood is the part possessing diuretic properties, but it is absolutely necessary that it be fresh. The author employed it in a decoction made by boiling a handful of the bark in a litre of water, the dose being from a litre to a litre and a half *per diem.*

Sambucus thus used is a diuretic of the first order rendering great service in the treatment of ascites and anasarca dependent upon kidney and heart lesions. With the administration of Sambucus it is often possible to increase the daily secretions of urine in a short time from 400 grams to 2,000 grams, or even more. The best effects are obtained in the albuminuria of nephritis and in the ascites which accompanies tubercular peritonitis in children, but its influence upon the ascites of hepatic cirrhosis is feeble. It also acts upon the intestines, producing from four to six liquid stools *per diem*.

Lemoine believes that Sambucus produces its diuretic effect by a direct action upon the kidneys; it does not influence the heart or the circulation except through its diuretic action. It is a diuretic which owes its properties to an action upon the renal epithelium.

Combemale and Dubiquet have completed the researches of Lemoine obtaining the following results:

1. To produce polyuria with the entire bark requires a dose of from nine to ten grams per kilogram of the bodily weight.
2. To produce the same effect with the outer bark requires still larger quantities.
3. A much more intense effect is produced with the inner bark when given to animals in the proportion of four grms. per kilogrm. of the animal's weight.
4. After macerating the inner bark, three grm. *per kilogrm.* of the bodily weight is sufficient to produce polyuria which is accompanied by nausea, vomiting and diarrhœa. This is accompanied by lowering of the temperature and retardation of the pulse and respiration.

FOREIGN BODIES IN THE BRONCHI.—KOBLER reports two cases from Schrötter's Clinic of foreign bodies lodged in the bronchial tubes and gives a short sketch of the symptomatology of such cases.

There are three principal diagnostic features of the presence of a foreign body in the bronchus: the history, the absence of the foreign body from the upper air passages and a series of symptoms which result from the obstruction present in the bronchus, namely, variations in the character of the percussion and auscultatory sound as compared with those of the healthy side. The condition which presents itself to the examiner is that of a bronchial stenosis of sudden formation.

If the foreign body is not removed, then after the subsidence of the first sudden paroxysms a period of well being may ensue until the attention is again directed to the foreign body by certain sequelæ which always attend these cases. The sequelæ consist mainly in inflammatory processess set up around the foreign bodies, which usually lead to necrosis or pus formation. A rare sequela is bronchiectasis in the affected part. The reporter describes two such cases. In both of these the patients had no knowledge of the entrance into the air passages of a foreign body. The symptoms of bronchiectasis gradually appeared and death finally ensued. The autopsies revealed in one case the presence of a piece of bone and in the other a shirt button as the cause of the closure of the bronchus and the resultant sequelæ. The reporter explains the remarkable but often observed fact of the penetration of rather large foreign bodies into the air passages without the knowledge of the patient by the diminished reflex excitability of the respiratory mucous membrane in these individuals. While as a rule the presence of a foreign body gives rise to a more or less violent inflammation of the lung tissue in the cases reported there was at first only a bronchitis and then, as a result of this, chronic inflammatory changes of the pulmonary parenchyma. The principal factors then in the development of bronchiectasis were: moderate powers of resistance on the part of the inflamed bronchial walls, interstitial proliferation of the connective tissue and contraction of the lung tissue, and the abnormal increase of air pressure produced in that portion of the bronchial tree behind the obstruction. It is worthy of remark that in the first case there were no symptoms of bronchostenosis.—*Cent. für. Klin. Med.*

PNEUMONIA AND LA GRIPPE.—MESSRS. SÉE and BORDAS have reported to the French Institute of Medicine some observations regarding the pneumonia of la grippe. These are their conclusions:

1. The lanceolated diplococcus of Pasteur and Talamon are always found in the lungs of individuals who have succumbed to fibrinous or lobular pneumonia. In this case cultures made with the fibrinous exudate do not give pure cultures of pneumococci. A certain number of microorganisms, such as the streptococcus pyogenes, staphylococcus areus, etc., are found.
2. By puncturing the spleen we have obtained pure cultures of the lanceolated diplococci in great abundance.
3. Rabbits inoculated with cultures from the blood of the spleen quickly succumb with all the signs of fibrinous pneumonia.
4. We have not employed the lanceolated diplococcus, found in the blood of pneumonia patients either before or immediately after death, except in the case of a patient who died from a general infection with meningeal complications.
5. We consider pneumonia not merely as a local disease of infectious origin, but also as a disease which may become infectious in the sense that it may invade other organs.—*La Prov. Méd.*

MERCURIAL INJECTIONS IN SYPHILIS.—From a study of numerous cases in which mercurial injections have been given DR. HARTMAN concludes that the hydrargyrum oxydulatum nigrum purum suspended in pure olive oil and administered by intra-muscular injection is a good antisyphilitic, and possesses a special advantage over calomel in that it excites less local reaction and produces less pain than the latter.—*St. Petersburger Med. Woch.*

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SYRINGOMYELIA.

It is but a few years since syringomyelia was looked upon as merely a curiosity of morbid anatomy, but recent investigation has lifted from it the veil of obscurity, and it may now be regarded as a disease having a definite pathology and a sufficiently positive symptomatology to render its diagnosis comparatively certain in most cases.

Our knowledge of it comes chiefly from France and Germany. It was not, indeed, until two years ago, that the first complete study of the subject and review of its literature appeared in this country, in connection with a report of several cases, contributed by M. ALLEN STARR to the *American Journal of the Medical Sciences.* More recent contributions are those of CHARCOT, in the *Bulletin Médical,* BRUHL, in the *Archives de medicine,* and IRA VAN GIESON, in his Cartwright prize essay for 1889. Several other articles have also appeared.

The essential feature in the pathology of syringomyelia is not simply the existence of an abnormal cavity in the spinal marrow, as the name implies, but the presence of a gliomatous growth (glio-sarcoma), through the disintegrating action of which a cavity is formed. An abnormally large central canal (hydromyelia) is not infrequently met with as a result, either of original defect or of subsequent dilatation. It is highly probable that some of the cases of syringomyelia that have been reported were of this character, especially those cases in which no symptoms of spinal disease were observed, the disease being discovered post-mortem. Van Gieson adheres to the view that at least "some cases of syringomyelia are cases of congenital tubular defects in the cord, producing no symptoms until a gliomatous hyperplasia of their walls, or a tumor arising in the wall becomes large enough to injure the cord."

The symptoms of syringomyelia are produced for the most part by the direct extension of the new growth into the spinal marrow, particularly into the gray matter, but may arise in part also from œdema of surrounding parts, or from pressure upon them. There is usually complete destruction of the gray commissure, along with a greater or less portion of the posterior horns; and the neoplastic tissue frequently extends through the lateral columns to the anterior horns. The most frequent seat of the glioma is the cervico-brachial enlargement of the cord; it may reach up to the bulbar origin of the fifth pair of nerves, or it may be situated much lower. Sometimes the entire length of the cord is invaded, sometimes only a comparatively small segment of it is involved. The central canal is, however, usually dilated throughout the greater part of the cord. The symptoms vary greatly in different cases, but correspond in their location to the parts whose spinal nerve centres lie in the part of the cord that is the seat of disease.

In character, the symptoms are sensory, motor, vaso-motor and trophic. The distinguishing feature of the sensory disturbances is the fact, that sensation is not affected in all of its departments, but there is what may be called a dissociation of sensation. A diminution of the sensibility to temperature, or an entire absence of it, appears, as a rule, to be the first manifestation of the disease. The thermo-anæsthesia is distributed to zones corresponding in location to the region of the cord in which the posterior gray matter is affected. It is, however, seldom recognized until sought for; or is discovered accidentally upon the receipt of a severe burn without pain. Analgesia is usually present in these zones, but hyperæsthesia has been observed. The special senses remain intact. The muscular sense and tactile sense generally remain normal, but may be to a variable degree obtunded. Charcot has observed but one instance in which this peculiar dissociation of sensation was exhibited, anomalous case of hysteria in the male. The muscular and tactile sense are affected only when, as a result of the direct action of the glioma, or œdema, or pressure, the integrity of the posterior white columns is disturbed.

Motor disturbances are frequent, not constant; they are various, and not characteristic. That most commonly observed is a paresis of one or both of the lower extremities, or of only certain muscles. At first unilateral, it generally becomes bilateral and commonly extends to the trunk. It is sometimes attended by a reaction of degeneration in the paretic muscles (Starr).

Muscular atrophy is one of the most constant and characteristic symptoms of the disease, next to the sensory disturbances already referred to, and is regarded by Charcot a trophic disturbance. The atrophy commonly begins in the upper extremities, but shows a tendency to become generalized. It produces a clawing of the hand (*main en griffe*), closely resembling that of progressive muscular atrophy. It is highly probable, indeed, that many cases of syringomyelia have been mistaken for this disease. Trophic and vaso-motor disturbances are also seen in the skin, in the subcutaneous cellular tissue, and in the osseous system. The skin is the seat of herpetic eruptions, eczemas, urticaria, bullous or phlyctenular eruptions, and there is sometimes a decided thickening of the epidermis of the extremities; the nails may also be affected in a manner resembling a painless whitlow. In the osseous system we meet with frequent arthritis, hyperostosis and fragility of the bones.

More remote accessory symptoms, depending upon the outward extension of the disease or pressure, are ataxic manifestations, spasms, contractures, or bulbar disorders.

The exact course of the disease cannot yet be mapped out, owing to the fact that thorough and accurate observations of cases have been so few. Its duration is variable; it is usually prolonged; at times its progress is very slow; it may even remain for years stationary; but as a rule, at no very remote time from its inception, the patient becomes bed-ridden and helpless, bed-sores develop, and finally death ensues from asthenia. Occasionally the death is sudden.

Bearing in mind these data, the diagnosis should not be a very great difficulty. The disease is confounded for the most part with progressive muscular atrophy, amyotrophic lateral sclerosis, multiple sclerosis, tabes, hypertrophic pachymeningitis, multiple neuritis and tumors situated outside the membranes. All these affections have certain features common to it, but as is emphasized by Charcot, none of them possess to any marked degree the dissociation of sensation which is so pronounced in syringomyelia.

THE ATTEMPTED RETROGRADE MOVEMENT IN MEDICAL EDUCATION IN THE STATE OF NEW YORK.

It ought to be very gratifying to the members of the medical profession, who are earnestly interested in protecting it from further accessions of ignorant and illiterate persons, that the leading journals of the State of New York, without regard to political affiliations, are making such vigorous protest against the repeal of the Act of 1889 of the Legislature of that State, providing for the preliminary examination of all intending medical students. The standard of literary acquirements established by the Act is low enough, contemplating hardly more than an ordinary grammar school acquaintance with *arithmetic*, *grammar*, *geography*, *orthography*, *American history*, *English composition*, and the *elements* of *natural philosophy;* but low as it is, parties interested in securing fees from young men and, for that matter, from old men as well, who, in this country which prides itself on its public school system, fall short of it, are actively at work to effect its repeal before it has been a year in operation and an opportunity offered for its practical test, and they have actually succeeded in carrying a vote for its repeal through the Senate. The plausible pretext for attack is the requirement of examination by State Regents, but it is evident that the faculties of medical schools, which make this pretense, can not very well be trusted with the work of examining proposed matriculants.

The following editorial on this matter by the New York *Sun* ought to receive the hearty approval of every reputable physician in the country:

> ### SHOULD PHYSICIANS BE ILLITERATE?
>
> An Act was passed by the Legislature in the session of 1889, providing that all persons intending to pursue the study of medicine must pass a preliminary examination in arithmetic, grammar, geography, orthography, American history, English composition, and the elements of natural philosophy. The Act further provided that this examination should be conducted under the authority of

the Regents of the University and in accordance with their rules, and that only those persons who have received a baccalaureate degree in course from a college or university duly authorized to confer the same shall be exempted from this preliminary examination.

This statute had its origin in the widespread conviction that something must be done to improve the quality of the medical student as the first step toward checking the entrance into the profession of illiterate practitioners who swell the ranks of charlatanry and degrade the title of Doctor. We must not only narrow the exit from our medical schools by rigid examinations, but we must guard the entrance to them as well. Such was the object of this legislation, and it is creditable to some of our medical colleges, all of which are mainly private enterprises, that they received the new regulation with approval.

Signs of opposition, however, *on the part of some of the schools* have already appeared, and with the opening of the present Legislature a bill was introduced to repeal the statute, which only went into effect in October last. This bill is known as the Brown bill; it has already passed the Senate and has been sent to the House, where we hope it will be defeated. The preliminary examination calls for very moderate educational requirements, but it is sufficient to deter very ignorant persons from attempting to study medicine. *It may bring about a considerable reduction in the income of the schools*, but it will be a great gain to the public if the number of physicians is diminished and the quality improved.

EDITORIAL NOTES.

HOME.

A WORD OF CAUTION TO ADVERTISERS.—We wish to state distinctly that no person is authorized to obtain advertisements for THE JOURNAL without the written authority of our business manager, Mr. J. Harrison White. The official programme of our annual meeting will contain no advertisements, and representations by outside parties that they have authority to obtain advertisements in the name of the American Medical Association, or in connection with the publication of its programme of proceedings, are in every instance fraudulent.

THE TENTH INTERNATIONAL MEDICAL CONGRESS.—We published last week, as requested, a circular issued by a committee of American physicians, earnestly inviting the medical men of this country to attend the meeting of the International Congress, which will convene at Berlin, August 4–9, 1890. We recognize the eminent ability of the gentlemen who compose this American committee of invitation, and will even concede that better men could not be chosen; but in the recommendation of names to constitute that committee we are at a loss to know why the Alleghenies should form a dividing line, and that such cities as Buffalo, Detroit, Cleveland, Pittsburg, Cincinnati, New Orleans, St. Louis, Chicago, Milwaukee, St. Paul and San Francisco—indeed, the entire valley of the Mississippi and the Pacific coast, should not be permitted a single representative. The omission may have been entirely accidental, and yet it is none the less noticeable.

MEDICAL ASSOCIATION OF THE DISTRICT OF COLUMBIA.—At the annual meeting held April 1, 1890, the following officers were elected for the ensuing year, viz: Dr. J. O. Stanton, President; Dr. H. C. Yarrow and Dr. J. H. Mundell, Vice-Presidents; Dr. George C. Ober, Secretary; Dr. S. S. Adams, Treasurer.

DR. SEAVER, college physician at the Yale University, has a plan for providing a small private hospitals for sick students, who cannot be properly cared for in their own quarters. He wishes to secure a fund, yielding $700 annual income, which with the moderate fees paid by the patients, will meet the necessary expenses for this undertaking.

AN EPIDEMIC OF JAUNDICE.—The *Maritime Medical News* states that Queens County and Charlottetown, P. E. I., have been visited by an epidemic of jaundice. Children were largely affected, although no condition of age, sex or position was discoverable as conferring immunity against it. In adults the complaint was at times limited to the reported feeling of "biliousness," while two, three or four of the children of the family would be distinctly marked with jaundice. In this and other peculiarities, the disease strongly suggests that a bacterial causation underlies the epidemic prevalence of jaundice.

THE MEDICAL INTERMEDIARY AT HOT SPRINGS.—The Common Council of Hot Springs, Ark., has voted to notify incoming visitors to that place to beware of the extortionate "drummers" of a certain class of medical practitioners who infest that resort. This notification was ordered to be done by means of a circular distributed on the railroad trains. If the newspaper correspondents are correct, at least one-half of the fifty physicians living there have employed train-drummers to bring them patients and these people have exacted half of the regular monthly fee of twenty-five dollars, ordinarily collected from the victim in advance. Municipal ordinances have been passed to check this pernicious system, but they failed of their object until some one suggested that a printed circular be distributed among the visitors, while they were yet at a distance on the train. Before this was done the drummer laughed at the efforts of the lawgivers, but now he is greatly excited, and is engineering to have the circulars withdrawn.

A Thought from Dr. O. W. Holmes.—"When the hospitals are invaded by the novelist, he should learn something from the physician as well as the patients." This is the appropriately genial and wholesome sentiment offered by Dr. Holmes in the April number of the *Atlantic Monthly*. It will fit into many another situation in life in addition to that for which it is immediately designed. It might be concentrated so as to read: "Don't be too morbid."

FOREIGN.

Fever in Siberian Prisons.—At one of the prominent political prisons in Siberia there were in a single month, 275 cases of sickness by fever of some sort, but termed "typhoid fever." There were about five hundred prisoners at that place. The hospital accommodations were taxed far beyond their capacity and it became necessary to let some of the fever cases remain in their cells, some of which were at the same time occupied by those who had not had the fever and had not before that been brought into infective relations with the fever.

Actinomycosis in Austria.—Dr. Albert, of Vienna, addressed the last meeting of the Imperial Society of Physicians of that city describing two cases of actinomycosis recently seen by him, one being a primary infection of the skin and another an abscess of the neck. The latter was operated upon by incision and a thorough scraping out of the mycotic contents. This was followed by recovery. Dr. Albert states that actinomycosis can no longer be regarded as a rare disease. He has seen not less than thirty-eight cases of the trouble within the past few years; of these eight have come under his observation during the present scholastic year. These cases have come to him chiefly from Vienna or its environs. The tracing back of the disease to its cause or to the time at which the mycotic contagium was experienced is commonly attended with difficulty and an uncertainty. This must probably continue to be the case until the laity have come to know that it is a ray-fungus disease and are on the alert to recognize its beginnings. In regard to the question of the increasing frequency of the disease, there appears to be no good reason to accept that position, in view of the fact that it is easy to confuse this with other affections, more particularly with phthisis, in cases where the fungus takes root and grows within the respiratory tract.

Epidemic of Supposed Chancroidal Vaccinations.—The French correspondent of the *Archives of Pediatrics* narrates a case going to show that it is never well to be too hasty in judging of irregular vaccinal cases. At a little town in the north of France, called Matte-sous-Bois, a number of cases, nearly forty, took on unfavorable conditions of the wound after having been vaccinated with lymph taken from the arm of a certain child. The arm in each of these cases became œdematous and painful and the wound was judged by several practitioners to be an ecthymato-ulcerous manifestation, specific in character. There were hepetic ulcers on the arm in the region of vaccination, some of them as large as a half-dollar silver coin, and attended by free suppuration. Professor Leloir did not accept the diagnosis of the specific nature of the trouble and advised to keep the cases under observation for a few weeks. The time passed by, and in the course of three months, he was able to report that all the alleged chancroidal vaccinations had become healed and that no secondary symptoms had made their appearance.

Dr. Edward Schnitzer, better known as Emin Pasha, is expected to be able to return to Egypt during April or May. He signs his letters in some cases at least "Doctor Emin," a name which mingles his medical and political distinctions. By cable despatch, it is announced that he will hereafter enter the service of Germany in that part of East Africa, which is termed "the sphere of German influence," under Major Wissman.

TOPICS OF THE WEEK.

MR. GLADSTONE ON THE MEDICAL PROFESSION.

On Wednesday, March 26, Mr. Gladstone, as Senior Governor of Guy's Hospital, opened a new medical college in connection with that institution. Mr. Gladstone, who was accompanied by Mrs. Gladstone, was met at the entrance to the college by Mr. H. Hucks Gibbs, the President, and the members of the governing body, and conducted, amid the cheers of a large crowd, to the dining hall, where luncheon was served. In responding to the toast of "Prosperity to Guy's Hospital," the right hon. gentleman said he "could not possibly look back on the history of the medical profession without being impressed with the extraordinary degree in which it presents most special features to us. If we travel back—say two or three centuries—we find the medical profession almost without a recognized existence. In the competition with the other great professions, only a short time back, it was nowhere. The great name of Harvey was known, but as regards its social position and influence the time of Dr. Freind and Dr. Mead in the last century was almost the first period to which one could point at which the medical man of this country had assumed a position of influence and power and general recognition. That profession has been steadily rising in power and influence and general respect from that date to this, and it is my belief that it will continue to rise. The growth of civilization, as we call it, in a large and comprehensive, but also in a very loose and indefinite phrase, carries with it the production of many new forms of human infirmities and disease, and men's wants in the medical sphere are the opportunities of the medical man. His position is, in many respects, singularly fortunate and favorable. In the first place I am inclined to doubt for myself whether, as regards the mere question of remuneration, the medical profession does not offer on its threshold as good opportunities of, in some cases, even liberal return with as little risk as either of the other great professions." Having referred in appropriate terms to Sir William Gull, the right hon. gentleman said: "I am delighted when I hear of the creation of great fortunes in this country that are not merely commercial. It is an excellent thing that large fortunes are made in commerce, by the handling of money, by the supply of the country with material goods; but it is desirable that their power and influence should be qualified by the creation of other fortunes, such as now, almost for the first time, we find beginning to be created by medical men. I rejoice to think that the medical man, who spends his talent and strength as freely in the performance of his duty as any member of any other profession, will be able to make a competent and even large provision for his family. Another point upon which I congratulate the profession is its independence. It does not rely on endowment, but on its own exertions directed to meeting human wants. There is no great profession which has so little to say to the public purse, and which so moderately and modestly dips its hand into that purse. It is not only in the interest of the public, but of the profession itself, that it is eminently self-supporting; and, rely upon it, that principle of self-support does much to maintain its honor and independence, and to enable it to pursue its stately march in the times that have come and in the times that are coming, to form its own convictions, to act on its own principles without fear or favor, for the general benefit of mankind."—*The Lancet.*

THE CAUSE OF PALLOR.

Dr. Oppenheimer has published some careful observations on the blood of 109 pale female subjects (servant girls), conducted by means of Zeiss and Thomas' hæmocytometer and Gowers' hæmoglobinometer. He considers the lowest number of corpuscles per cubic millimetre in a normal state of health as four million, and the lowest amount of hæmoglobin in health 90 per cent. He also agrees with Gräber's dictum: "Number of corpuscles and hæmoglobin both diminished equals acute and chronic anæmia. Number of corpuscles diminished, hæmoglobin relatively increased, equals primary chlorosis or pernicious anæmia. Number normal, hæmoglobin diminished, equals chlorosis." In severe cases of chlorosis, with tendency to faintness, headache, heart symptoms, and œdema without albuminuria, the hæmoglobin varied from 30 to 50 per cent. In fifty-five of the cases the condition of the blood was normal. These patients were found to be suffering from phthisis, cardiac disease (compensated), gastric ulcer, and various affections of stomach, intestines or genital organs. Phthisis of itself—that is to say, before hæmorrhage or diarrhœa or profuse expectoration had come on—appeared to have no effect on the blood. An interesting result was obtained in connection with gastric ulcer. In simple ulcer the blood was normal, except when there had just been hæmatemesis, but in carcinoma of the stomach both the number of the corpuscles and the hæmoglobin were subnormal. Pale girls sometimes take iron for a long time without any visible improvement. Dr. Oppenheimer finds that such patients are not anæmic, but chlorotic from some uterine or other affection, so that when the blood is found to be normal it is advisable to make a vaginal examination. The pallor of patients with normal blood appears to be due to the insufficient filling of the cutaneous capillaries. From the observations of Dastre and Morat there would seem to be an antagonism between the blood-vessels of the skin and those of the abdomen, so that if one of these systems becomes dilated, the other, by an automatic reflex action, invariably becomes contracted. Because of the fact that irritation of the depressor nerve of the heart induces dilatation of the abdominal vessels and contraction of the cutaneous vessels, Dr. Oppenheimer believes that the pallor of phthisis, cardiac diseases and kidney mischief is due to reflex action. In these affections the heart has extra work to do, and this affects, by means of the depressor nerve, the vaso-motor centre, causing a diminution of the cutaneous flow, and, consequently, a dilatation of the abdominal vessels. The pallor observed in most inflammatory affections of the hypogastric viscera may probably be explained also by the reflex action of the hyperæmic abdominal vessels upon the calibre of the cutaneous vessels.—*The Lancet.*

THE DEVELOPMENT OF CULTIVATED MEN.

Upon his installation as President of Columbia College, a few days since, the Hon. Seth Low defined the aims of Columbia College in terms which apply to all of the better institutions of learning, as follows:

"She (Columbia) aims to develop the cultivated man, the educated gentleman; the man who, without being a specialist in anything, has been educated enough in all directions to be in sympathy with all learning; the man who knows enough about the past to recognize the value of it and of all experience, but who is not bound down by the past; the man who knows enough about the present to glory in its achievement and its promise, but who never forgets what it means of indebtedness to those who have gone before, to be 'in the foremost files of time.' In a word, she aims to develop the thoughtful and well informed citizen and to fill him with her own high aspirations as to his citizenship and his life. The splendid products of this work adorn the history of the city and the nation from the beginning of our career. Columbia College believes that *the specialist, because he is a specialist, ought first of all to be a broadly developed man.* Side by side with these men of a general culture and a professional training Columbia aims to contribute in increasing numbers still another precious type to the scholarship and citizenship of the times. She always has been doing something, she aims to do systematically more and more of the original work which belongs especially to our conception of a University in philosophy, in law, in science, and in every branch of learning. She aims to develop the patient student whose controlling desire it will be to add something to the sum of human knowledge."—*North American Practitioner.*

DO HEADS GROW WITH ADVANCED AGE?

Some amusing letters have appeared in a daily contemporary in regard to an alleged steady increase in the size of Mr. Gladstone's head, which, it is said, is rendered manifest by a progressive enlargement in the size of the hat required to cover it. The correspondence exhibits an extraordinary ignorance of well ascertained facts; for if there is one thing which would be acknowledged by all anatomists and physiologists, it is that the nervous system, like other parts of the body, undergoes atrophy with advancing age—an atrophy that pervades every tissue, and is as apparent in the thinning of the vocal cords that alters the voice to "childish treble," as in the shrunk shanks for which the "youthful hose, well saved, are a world too wide." No reason can be assigned why the brain should escape the general change that affects the digestive and the circulatory systems alike. Its attributes and faculties attain their highest excellence at or before mid-age, and from that time forth exhibit only a steady decline. To compare Mr. Gladstone with Napoleon, respecting whom a similar story is related, is absurd. The head of Napoleon may have grown between 20 and 45, because his brain was greatly exercised during the last ten years of the past century and the first ten of the present; but no calls have been made on Mr. Gladstone of late years at all comparable to the strain on the mental and bodily powers of the French Emperor during that eventful period. The ossification of the sutures of the cranium practically prevents increase of the volume of the brain in advanced life; and, even granting some slight increase, such increase would be compensated for by the attenuation of the cranial bones which is well known to occur in old age. A change in form there may be, but none in size.—*The Lancet.*

PRECAUTIONS AGAINST CHOLERA IN CAUCASIAN RUSSIA.

According to the *Voljsky Vestnik*, 1890, February 21, the Caucasian governor-in-chief has issued an order of the day (*prikaz*) in which, while pointing out that cholera still prevails in Mesopotamia and Persia, and that it is very possible that the disease may spread to the Caucasian military district, he lays down a series of precautionary measures to be immediately adopted all over the district. The chief measures are as follows: Strict sanitary supervision of barracks, hospitals, and lazarettes; the formation of military sanitary commissions; arrangements for opening cholera wards and infirmaries; special courses for army surgeons and medical assistants (*feldshers*) in connection with the first aid to cholera patients, and so on.

PHARMACOPŒIAL REVISIONS.

There seems to be a general tendency at present among civilized nations to put their pharmacopœial houses in order. The last edition of our own Pharmacopœia is hardly five years old, and already an Addendum is required. Germany, Holland, Russia, and the Scandinavian countries are busily overhauling their formularies. Our Transatlantic cousins are determined not to be left behind in the race for medicinal perfection. It is announced that a meeting of the various incorporated and pharmaceutical bodies of the United States will be held at Washington in June of this year, for the purpose of revising the United States Pharmacopœia.—*British Med. Journal.*

SURGERY IN VIENNA.

In the last few years there have been twelve Cæsarean sections in Chrobak's clinics. They were all made after the Porro method, and in no case was child or mother lost. In the last thirty cases of uterine fibroids removed by the extra-peritoneal method of amputation there were but three deaths, and the mortality in simple ovariotomy has been reduced to almost *nil.* The most thorough antiseptic precautions are observed here, and to this are attributed these wonderful results.—Corr. *Medical News.*

THE HYGIENE OF INFANTS.

The Paris Academy of Medicine has just opened to competition a prize of the value of 1,000 francs for the best work on the hygiene of infants. The following is the question proposed: To determine what are, in the artificial feeding of infants, the value and the effects of raw milk, warmed or boiled milk respectively. The papers, which should be written in French, the other academical rules being observed, are to be forwarded to the Academy before March 1, 1891.

PRACTICAL NOTES.

CONCENTRATED SOLUTION OF MAGNESIUM SULPHATE AS AN ENEMA.

Dr. J. T. Watkins in his inaugural thesis presented to the Gynecological Society of Chicago, stated (*Medical News*) that after reviewing the literature, and reporting a number of cases in which the enemata had been used, he summarized its advantages as follows: 1°. Its action is local. 2°. It seldom fails, and produces copious stools. 3°. The time of action is short. 4°. The bulk is small, causing but little, if any, discomfort to the patient. 5°. It is as unirritating as a simple enema. Its certainty of action has become so well recognized in the New York Woman's Hospital that it has been used in nearly all the operative cases, as the cathartic preparatory to operation, for the last six months. It is best administered with the patient in Sims' position, the hips being elevated by a pillow; and when much tenderness exists it should be given through a large rubber catheter passed well up into the bowel. The patient is to be instructed to allow the abdominal muscles to remain lax, and, if necessary, the nurse is to keep up pressure over the anus to cause it to be retained for at least fifteen or twenty minutes. If the bowel should fail to expel the exuded liquid, a rectal tube should be inserted to allow its escape. Two ounces have been retained, without bad results; but Christison reports a case of death in a boy ten years old, where two ounces were taken by the mouth without being followed by purging. Where it is retained, the sphincter ani is likely to be strongly contracted, and great relief will follow forcible dilatation under an anæsthetic, which will also have a good effect upon the chronic constipation usually present.

The following is the formula he uses:

℞. Magnesii sulph. . . . . 2 ounces.
Glycerine . . . . 1 ounce.
Aquæ q. s. ad. . . . . 2 ounces.
M.

The solution is made more readily, and its power of diffusion increased, by the addition of glycerine. He has used three and four ounces of the salt, but does not see that it has any advantages over the smaller amount.—*Cincinnati Med. Journal.*

THE OLIVE OIL TREATMENT OF GALL-STONES.

When some years ago some cases of successful evacuations of gall-stones in attacks of biliary colic following the ingestion of large quantities of olive oil were published they were received with some incredulity, which passed into ridicule when it was found that the oil itself was evacuated in the form of saponified pellets. Nevertheless, the practice was not abandoned in some quarters, and from time to time further successes were claimed for this singular form of medication. Recently Dr. Rosenberg has related three such cases (cited in the *Gaz. Hebd.*, No. 8). The first was a patient aged thirty-six, who had suffered from gall-stone for several years and had been treated without result. The gall-bladder was enlarged. The patient during two weeks drank a litre of olive oil with only once vomiting, and at the end of that period the liver and gall-bladder had notably diminished in volume. She had remained free from colic eighteen months after treatment. The second case was that of a workwoman aged thirty-seven, who was attacked with biliary colic. There was slight icterus, which always increased at the menstrual periods. The liver reached for three fingers breadths below the ribs. She was given 200 grams of the oil mixed with a little menthol and the yelk of egg. Next day the pains had disappeared and the liver had lessened in size. The jaundice and pruritis persisted; so another similar dose was administered, when these signs also disappeared. For several days after she passed biliary calculi. The like result was obtained in a third case, aged thirty-eight, after nine years' suffering from attacks of hepatic colic unrelieved by many "cures" at Marienbad and Carlsbad, although on each occasion she had passed some small calculi. Rosenberg states that of twenty-one cases treated on this plan there are only two in which it failed. He found by experiment that large doses of olive oil increase considerably the flow of bile and diminish its consistence. And he mentions, on the authority of Cantani, that in Italy, where olive oil is taken largely as an article of diet, gall-stone is less frequent than in other countries. Lastly, Rosenberg would not advise recourse to this remedy until other methods had been tried and failed; but, as he truly says, it may well be prescribed before advising recourse to cholecystotomy.—*The Lancet.*

Brunner (*Schmidt's Jahrbücher*), believes that *raw* catgut is easily rendered aseptic. His method of preparing it is as follows: The catgut is first scrubbed with a potash soap, then placed for twelve hours in ether, and then for a time in a 1:1000 watery solution of sublimate. It is preserved in a solution composed of sublimate 1 part, glycerine 100 parts, absolute alcohol 900 parts. Before using, the gut must be placed in 1:1000 watery sublimate solution. The author's experience with gut prepared in this manner shows that it is absolutely safe and unirritating to the tissues. Referring to the use of silk and linen sutures and ligatures, Brunner says that though they may be thoroughly disinfected by boiling, experience has shown that even then, if placed deeply in the tissue, they will occasionally excite suppuration.—*Med. News.*

SOCIETY PROCEEDINGS.

Philadelphia County Medical Society.

Stated Meeting, January 22, 1890.

THE PRESIDENT, W. W. KEEN, M.D., IN THE CHAIR.

DR. ANDREW GRAYDON read a paper entitled

NOTES ON THE USE OF STATIC ELECTRICITY IN GENERAL PRACTICE.

To answer the many inquiries that come to me as to the results obtainable from this agent I present this paper. Living as we are in this age of discovery, when new drugs and operations are being brought to our notice, we are prone to overlook the older forces.

It is of one of these latter that I am to address you. It is a powerful auxiliary in the practice of medicine, and has been used for a number of years, but never in its present reliable form.

Much of the disrepute into which this form of electricity has fallen has been due to the unreliable form of the instrument with which we had to work. Changes of seasons, humid atmospheres, location of offices, lack of proper appliances, expensive outfits, have all tended to create in the physician's mind a distrust, or a disinclination to investigate by practical experience the merits of this agent. All these objections, to a very large extent, have been done away with in the Waite and Bartlett machine.

I have no theories to advance in this paper, simply giving what I have demonstrated. And I want to say, at the outset, that I was driven to the use of electricity because I could get results from it not to be had from other modes of treatment.

It is a fundamental truth that prejudice should never be allowed to stand in the way of progress; that no student should be hindered in his research after positive forces by the existence of a bias in the opinions of his fellows. The rules that bind the physicians to his work should not be arbitrary. Results sought for come along different lines, but they bring up at the same point. We are working primarily for curative ends; must we all tramp in the same ruts, or over the same foot-worn paths? Are there no roads to success but those laid out by other faithful workers? Certainly our medical training and experience have taught us that different ones are achieving success, but not by the same methods.

And now, in this matter of electricity, why is it that you will not allow these principles to have free play? Is it not a fact that the whole use of it has been handed over as the legitimate field for irregulars and quacks, and that when a physician in the fold does begin to use it, and use it as you would any valuable agent, medicine, or instrument, he is looked upon with, at least, suspicion.

Is it not so that the profession, as it is now beginning to use it a little, handle it, as it were, with gloves on, lest it soil its hands with the unhallowed dirt of bygone empiricism? I protest that this is not the spirit of fairness and equity, nor should it be that of the nineteenth century. In the face of this prejudice in the ranks of my profession I have followed the leadings of my inquiries, and what I have found is only that which any student and worker may. In these days when the spirit of progress is rife, and medicine is getting to be more and more scientific, when its followers are not satisfied with mere statements but demand proof, I protest against this prejudice, which hinders many from leaving the iron-bound environments laid down in the spirit of the past, intolerant and arrogant, to prove for themselves. There seems to be a fear in the minds of many, a dread, that to be known as one that works with electricity necessarily names them before the profession and public as electricians (and is the profession entirely blameless of encouraging the idea?). Is a physician, therefore a hydropathist because he may perchance, at times, order baths? Is he to be called a Thompsonian because vegetable drugs are found to be prescribed by him? or a homœopath in his ideas because he uses some of his remedies in granular form?

Cannot the general practitioner take advantage of the evolution that is going on around about him without having a sneering opprobrium given him? Are not some of the "foremost specialists" in Europe "men of large family practice?" and would you question their ability to diagnose a fibroma, and treat it by whatsoever means they elect, perhaps by electricity, or must they send their patient to a specialist pure and simple, who may not be able to write a prescription for an ordinary bronchitis?

It is time for physicians to break the thraldom and vindictiveness of the past, and encourage all workers who labor along various lines, as long as they follow truth and science, even if they do not run parallel with moss-grown principles.

I have been in society meetings when the mention of electricity roused a spirit of opposition only equalled in the fierce animal at the sight of red. Or, if not that, it is one of disbelief and contempt. Now this ought not to be. I do not make any extravagant claims for this agent. There is much we do not attempt to do with it; on the other hand, it can be proven to the fair and honest mind that there is a great deal it *will* accomplish, and that painlessly and surely; and that, too, in conditions where no curative agent obtains.

One of the first advantages that makes itself felt to the worker with the static current is the fact that no disrobing or removal of any clothing is necessary. A lady can be treated, the current applied as directly to the part to be affected through the seal-skin coat as her dressing-gown. This is an important item to the busy physician and modest female. It is not necessary to remove rubber overshoes even to receive the full benefit of an application. You can see how this applies when the patient is treated with the "static insulation," or, as it may well be called, the static bath. Effects equally good are obtained by this method as in "general galvanization," or "general faradization," and with infinitely less trouble and exposure; since, in the latter two forms, almost complete uncovering of the body is essential, while in the first none. Let me explain what is meant by static bath or insulation: A patient sits upon an insulated platform connected by a chain or wire to either pole of the machine, we will say the positive. The negative is joined through another chain to the floor, if uncarpeted, or to the gas-pipe, and thus grounded. The poles of the machine, sliding rods, are then separated widely, and the wheels, glass plates, I should say, are set in motion by means of hand-power, electric, or water-motor. The patient, thus placed, is being charged with positive electricity. According to the conditions of the atmosphere the manifestations of the presence of the current is very apparent; for instance, the hair, unless oiled, stands on end, a tingling is felt throughout the body; more so in those parts unclothed. A séance of this kind, if kept up for ten or fifteen minutes, produces active perspiration.

In neurasthenic patients, in those whose avocations demand large inroads upon their nerve-force, consumption of it being greater than its generation, I have seen speedy and lasting results follow this mode alone, or combined, if indicated, with the spark, direct or indirect. I would not decry "general galvanization," or "general faradization"—they are very valuable methods of treatment, for which we are indebted to Drs. Beard and Rockwell, but in the matter of convenience and speedy results I prefer "static insulation" in a large number of cases. Then, too, it can readily be seen how a series of platforms can be arranged and connected, upon which a number of cases can be treated at the same time, to the saving of much time.

There is a sense of exhilaration following this process which is appreciated and remarked upon by the patient, that I have never seen from other forms. Dr. Morton, of New York, explains the results produced through the law of inhibition, remote parts affected by "polarizing the peripheral distribution of the sensory nerves."

While your patient is insulated the spark can be used by attaching the proper electrode. By using a wooden one, in shape of a point or ball, a very agreeable effect is produced, giving the sensation as of a shower of sand being driven gently against the body, or that of a stream of air. This either through the clothing or on the uncovered skin. These wooden electrodes I also use about the head and face, concentrating the action of the current over regions of the brain and organs of special sense, with good and never bad results. I have applied this form of electrode to eyes with the deep-seated, burning, boring pain, occasioned through nerve-tire from any cause, and obtained prompt and positive relief at one sitting.

As a pain reducer I have never seen static electricity equalled in a single agent. Let me illustrate by a case, trifling it may seem to you and me, but it was a condition which I was called upon to treat or turn away from as unworthy of notice. A young lady presented herself apologetically, in my office, with a bunion that crippled her. As she was a society girl, and very fond of dancing, it was a great annoyance to her. This trifling, little, insignificant bunion put a check on her pleasure. I was brought to see the fact, as it often happens in our practice, that what is almost contemptible in its littleness, enables us to get the confidence of the patient in graver matters. So it happened in this case. I insulated the lady, and, without removing the shoe during treatment, drew with the wooden ball electrode a fine spray of current directly from the painful spot. The application was pleasant, and followed by immediate relief, which was complete after four or five sittings.

Again, a lady, in running for a street car fell upon her knee. She came into my office about three hours after it had happened, with knee swollen, stiff, and painful. Through all the thickness of her clothing the same mode of application removed all pain.

A case of lumbago was given two treatments on consecutive evenings with the metal ball, sparks half an inch long, with the same happy results.

Cases of neuralgic type yield to the spark applied over the painful area. Headaches, not dependent upon stomach derangements, show results that are marvellous. In these, and brain affections generally, the treatment is by the douche and brush; and sometimes the wooden ball and point. I have seen cases, without number, of nervous headaches, in which the drain upon the nerve-forces has been enormous, in the merchant, physician, lawyer, actor, student, housewife, in male and female, yield promptly to this treatment.

In that class of senile headaches which defy routine treatment the results are most happy.

With cerebral hyperæmia I have had the best of effects. Stimulating the vaso-motors, it sweeps on the stagnant current, and equalizes the circulation, thus relieving the pain and pressure. A case in point will illustrate the treatment of this class of cases:

Mrs. J. has been suffering from chronic cerebral meningitis for six or seven years. During this period she has been treated by the best men in the city. Everything that routine treatment could devise was used. Counter-irritation of every degree of severity was applied, until, as she says, "they told me there was nothing else to be done, and I must suffer all my remaining life." About three years ago she was put upon the static current against the wishes of her physician, who opposed electrical treatment. It is the only treatment that has ever given any alleviation from, and moreover lengthened the intervals between, the agonizing headaches consequent upon the congestive condition, amounting to a mild delirium. Very true, it is only palliative, but before she did not have even *that.* When the treatments are neglected for any length of time, she has a frightful attack of congestive headache.

The *modus operandi* in her case is to insulate her, and with a wire brush connected with a chain to one pole of the machine, the platform upon which she sits to the other pole. The current is drawn from directly over the painful areas, not, however, allowing her to feel it, as the current is not broken, since the operator puts himself in the circuit. I supplement this with the douche.

As I say, I have found this treatment very satisfactory.

(*To be concluded.*)

DOMESTIC CORRESPONDENCE.

Letter from Los Angeles, Cal.

The World's Health Resort.

To the Editor:—The healthiest climates are those in which the winter is not very cold and the summer not very warm and in which consequently there is no great or continual strain on any one class of organs.

The climate of Persia is reputed to be delightful as any on the face of the earth. For nine months a cloud seldom appears in the sky, and during the other three months it is more or less cloudy.

The Mediterranean basin is noted for its mild winters and cool summers and its sunny skies, yet the prevailing winds are its only drawback. Along the para in South America the climate is warm with plenty of sunshine, with a daily shower of rain about four o'clock every afternoon, and yet it is not the most desirable of places for health.

In Southern California there is six months of continual sunshine, and during the other six months while there are occasional rains, say thirty or forty days of rain during the rainy season, the other days are nearly all those of sunshine.

Those who have traveled much and visited Persia, the Mediterranean shores and other health resorts declare that Southern California, along the Pacific coast, has a climate which for the all-year-round is superior to any other on the face of the globe. During the winter we are protected from the cold north winds by the high coast range of mountains and favored by the warm winds from the desert and the warm ocean streams which hug the shore. During the summer the cool ocean breezes which blow daily over the land refresh us. If it were not for this afternoon wind our climate would not be so balmy. The climate is not principally dependent on astronomical facts nor on the sun's position or inclination, but it is dependent on the relation the land bears to the mountain ranges and its position to the ocean and its gulf streams. We are favored with those conditions of temperature, atmosphere, wind, soil, moisture, electricity and geographical position which unite in harmony to make the climate of Southern California almost perfect and uniform. There is literally only two seasons, summer and winter, but the winter is really spring time, which begins with November and ends with April. The mean average temperature for these months is only about fifteen degrees cooler than for the summer months. There is no cold weather, very seldom a frost, never any snow, except up in the mountains at a high elevation. With the winter months begin the rains, but the rainy days are few. After the beginning of the rains vegetation springs up all over the land, and instead of the ground being covered with snow it is a beautiful land of verdure, of thriving grain crops, of fragrant orange groves, a land where grows the olive, the banana, the fig and the pomegranate, a land of flowers and semitropical plants and warm sunshine days; where the warble of the mocking bird enchants the soul of the wearied and afflicted, and his sweet melodies during the night sings the restless mortals into sweet slumbers.

The temperature at midday during the winter reaches the eighties, and while all is spring time in the valleys winter's snowy bounds reigns supreme up in the mountains at the short distance of twenty-five miles from Los Angeles. The mountain peaks are capped with pure white snow, and the varied scenery of summer with all its thriving crops of semitropical fruits and flowers and palms in the valleys, and winter's snowy bounds only twenty-five miles away, the scenery is one of sublime grandeur.

The summer begins with May and ends with October, during which time there is no rain. The average mean temperature for these months is about 67° Fahrenheit, with a daily range of about 25°. There are no long spells of persistent or intense heat. The temperature rarely reaches the nineties, and when it does it is only for a couple of hours between the hours of 10 A. M. and 2 P. M., after which there is always a cool sea breeze. With such weather we are relieved of that physiological strain on the skin, digestive organs and liver which the spells of persistent and oppressive hot summer days in our eastern cities render mankind prone to, especially diseases of the digestive system. The atmosphere at all times is pure, clear, fresh, calm, yet highly tonic, with a low relative humidity during the hottest part of the day, giving us a moderately dry climate as regards atmospheric humidity. The prevailing winds during the summer are from the ocean, which is cool and refreshing. As night comes on the breeze ceases and the evenings are pleasant, cool, quite comfortable and delightful. The mornings always greet one with a bright rising sun from a refreshing sleep. As there is always a cool ocean breeze it is at all times cool in the shade. The ice pitcher is not needed; for to obtain a cool drink of water it is only necessary to keep the water tank in the shade.

From the above facts we learn that it is not cold in winter nor hot in summer. More than this the climate contains those three essential elements of a perfect climate, namely: dryness, equability and purity of atmosphere. This varied climate is remarkable. Within a radius of fifty miles, yes, in some places only twenty-five miles, embraces almost every variety of climate.

Summer in the valleys and winter up in the mountains from the sea to an elevation of 6,000 feet within a distance of forty miles, and a very attractive country with its novelty and beauty of its varied wide scenery of sea and rolling valleys, and amphitheatre of mountains with summer's sunny land and winter's icy mountains within a day's drive. The climate is truly so varied that each mountain, plain and valley, and each city, village and house seems to have a climate of its own. It is only left to each individual person to select for himself that locality which is best adapted to his own peculiar constitution.

The atmosphere is charged with positive electricity, negative electricity is very feeble or *nil*, consequently thunderstorms very rarely occur. The atmosphere contains very little of that deleterious gas-autozone, and where the atmosphere is free from autozone no cloud or fog can form and the oxygen of the air is in a state of purity, hence the healthfulness of the climate. Everyone knows that in localities where clouds and fog predominate such localities are naturally miasmatic and engender diseases of all kinds.

The atmosphere is aseptic, proof of which may be seen in the meat market, where even during the hottest summer days the fresh meats are continually exposed to the air, hanging around in the shops day after day until it becomes cured, or as they term it here, "jerked." The meat is not put in ice boxes or refrigerators to keep it sweet and fresh, but it is kept sweet and fresh and free from putrefaction by hanging in the open air. The soil is principally a dry sandy soil, very porous and well drained by a gradual slope of the land toward the sea. There is no stagnant pools of water for the development of malaria and other miasmatic diseases. For a place of residence for the health, pleasures, and comforts of life Southern California is truly a paradise. There is every advantage for the pleasures of out door life. There are more than three hundred sunshine days in the year to be out doors. There is every facility for exercise such as riding and driving over the beautiful valleys, walking and climbing mountains, hunting and fishing, rowing and sea bathing, which can be indulged in every month in the year, yachting and the pleasures of short ocean voyages along the coast and to the coast islands.

Along the foot-hills within a few miles of Los Angeles is one of the most glorious places for a home for the invalid. Here everything favors health. The consumptive lives in ease, and if he comes here in due time he is almost sure to regain his health and be free from further progress of the disease, and only a few miles from the sea or city, he can conjoin country or mountain life with city or sea life.

For the invalid a home in the country is preferable to the city. Although Los Angeles is so situated, and with all its modern improvements now under way as regards paved streets, drainage, sewerage, suburban hotels, street railway systems, seaside resorts and drives, it is destined to become the largest and most desirable health resort in the world. WM. H. DUKEMAN, M.D.

114 W. 6th street, Los Angeles.

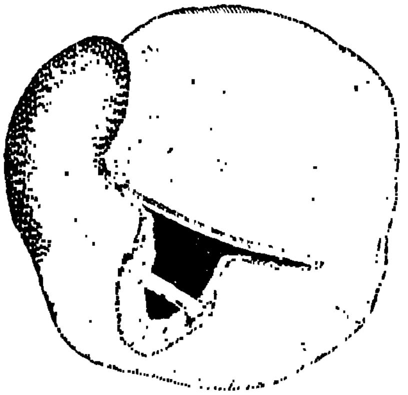
Nephrectomy for Fibroid—Successful.

To the Editor:—The appended report of a remarkable case of nephrectomy, which is published in the current number of the *Indiana Medical Journal*, I deem worthy of a more extended notice, and therefore request that you publish it in THE JOURNAL. Yours truly,

JOSEPH EASTMAN, M.D.

Indianapolis, Ind., April 10, 1890.

"*Case 129.*—Mrs. D., aged 49 years. Referred by Dr. Wands. Operation November 6, 1889. Large nodular tumor in right hypochondrium. Symptoms pointed to cancer of liver. Incision first made 3 inches long, then extended to 8. Introduced the finger, and found tumor adherent in every direction. Separated the adhesions from the abdominal wall, finding that the tumor developed from the region of the right kidney behind the peritoneum. Tearing open the peritoneum, separating the extensive adhesions, dealing with many bleeding points and with great difficulty, I was enabled to lift the tumor out of its bed, finding that it developed from the lower half of the right kidney. I ligated the renal arteries with strong iron dyed silk; removed kidney with the tumor. I then plunged a pair of sharp-pointed scissors through the back at the most dependent point of the cavity, from which I removed the tumor, expanding them large enough to introduce the finger; then drew a large rubber drainage tube through the opening, stitching the tube to the external integument; put a glass drainage tube in abdominal wound, having it extend well down into the cavity. Closed the wound with silkworm gut. The patient left the table with pulse of 90. Dr. William Wands kindly assisted me in the operation, the senior class of the College of Physicians and Surgeons also present. The tumor weighed *nine* pounds, and a cavity connected with the pelvis of the kidney contained three pints of purulent urine. Experts class the tumor as "rhabda myoma," the so-called *striped* myo-sarcoma. (See Greig Smith, p. 496.)"



Represents tumor, Case 129.

American Medical Editors' Association.

To the Editor:—The annual meeting of the American Medical Editors' Association will be held in the Dental Department of the Vanderbilt University, at Nashville, Tenn., Monday evening, May 19, 1890.

Every medical editor in the United States is cordially invited to attend. Matters of great importance to the Editorial Guild are to be presented and discussed. Papers from Dr. F. L. Sim, of Memphis, Tenn., Dr. T. D. Crothers, of Hartford, Conn., and others, will form the programme. Arrangements are being made by which a dinner will be held at either the Maxwell House or Duncan House after the annual meeting. Those desiring to participate in the latter will please send their names on at as early a date as possible.

Will the various journals of the country please make a note of this announcement?

I. N. Love, M.D., President.

Office of the President, 3601 Lindell Boul., St. Louis, Mo.

BOOK REVIEWS.

Insomnia and Its Therapeutics. By A. W. Macfarlane, M.D., F.R.C.S., Edinburgh; Fellow Royal Medical and Chirurgical Society, London; Examiner in Medical Jurisprudence, Univ. Glasgow, etc. Pp. xv, 366. London: H. K. Lewis. 1890.

This work, although addressed by its author to students and junior practitioners of medicine, will be read with interest and profit by all classes of physicians. The author's style is particularly attractive and he has well covered the ground of his subject. He himself makes great use of the character of sleep as a diagnostic point, and in this connection gives many useful hints. The most noticeable feature of the work is the great attention paid to treatment; insomnia is first studied in connection with each one of the various diseases upon which it depends, and then in every instance the character of the treatment to be adopted follows. The younger practitioners especially will doubtless be pleased to find that the author has given a large number of his own favorite formulæ.

Massage and the Original Swedish Movements. By Kurre W. Ostrom, from the Royal University of Upsala; Instructor in Massage and Swedish Movements in the Hospital of the University of Pennsylvania and the Philadelphia Polyclinic, etc. Pp. vi, 97. Illustrated. Philadelphia: P. Blakiston, Son & Co. 1890.

In this volume the author gives an excellent description of the methods of massage and Swedish movement, together with their applicability to various diseased conditions of the body. These methods are rapidly becoming popularized in our own country, and the perusal of such a book as Mr. Ostrom has written will be of great advantage to physicians, for whose use it is mainly intended.

Manual of Skin Diseases. With Special Reference to Diagnosis and Treatment. By W. A. Hardaway, M.D., Professor of Skin Diseases in the Missouri Medical College and in the St. Louis Post-Graduate School of Medicine, etc. Square octavo, pp. viii, 434. Price $3. St. Louis: Theo. F. Lange. 1890.

The professors of dermatology in St. Louis seem to be very active at present in a literary way, for besides many papers and clinical reports in the journals, we have been favored with two text-books within the last three months. The present volume is the outgrowth of the author's desire to place a convenient work on dermatology in the hands of his students. Having enlarged upon his original plan he now offers a well written and extensive treatise on this subject, and one which will be found serviceable alike to students and general practitioners. The work is arranged in three parts, including an introduction to the study of skin diseases, an alphabetical arrangement of diseases for ready reference, and an appendix containing additional formulæ and a diet table.

ASSOCIATION NEWS.

American Medical Association, Forty-First Annual Meeting.

Section of Laryngology and Otology.

1. "The Value of Different Operations for Nasal Stenosis," by Max Thorner, M.D., Cincinnati, Ohio.

2. "An Anomalous Condition of the Human Voice," by Alexander W. MacCoy, M.D., Philadelphia, Pa.

3. "Suggestions on the Use of Electricity in Ear Diseases," by E. L. Jones, M.D., Florence, Ala.

4. "Glandular Hypertrophy at the Base of the Tongue," by A. B. Thrasher, M.D., Cincinnati, Ohio.

5. "Fractures and Concussions (Contra-Coup) of the Temporal Bone as a Cause of Deafness," by Laurence Turnbull, M.D., Philadelphia, Pa.

6. "The Galvano-Cautery and its Use in Certain Nasal Affections," by Wm. Cheatham, M.D., Louisville, Ky.

7. "Pathology and Treatment of Tinitus Aurium," by A. A. Hubbell, M.D., Buffalo, N. Y.

8. "The Importance of Surgical Means Applied to the Naso-Pharynx in the Relief of Naso-Pharyngeal and Middle Ear Catarrh," by C. W. Richardson, M.D., Washington, D. C.

9. "How Can We Best Utilize for Scientific Study the Clinical Material so Abundant in Large Dispensaries?" by O. B. Douglas, New York, N.Y.

10. "Salol in Acute Pharyngitis and Tonsillitis," by Jonathan Wright, M.D., Brooklyn, N.Y.

11. "Imperforate Auditory Canal," by Seth S. Bishop, M.D., Chicago, Ill.

12. "On Laryngismus," by J. H. Bryan, M.D., Washington, D. C.

13. "Hygiene of the Upper Air Tract," by J. E. Schadle, M.D., St. Paul, Minn.

14. "Note on Nasal Hæmorrhage," by Frank H. Potter, M.D., Buffalo, N. Y.

15. Discussion on Croup and Diphtheria:

I. Their Identity, by D. Bryson Delavan, M.D., New York, N. Y.

II. Their Duality, by J. Solis-Cohen, M.D., Philadelphia, Pa.

III. Treatment: (*a*) Medical, by William H. Daly, M.D., Pittsburg, Pa. (*b*) Surgical, by F. E. Waxham, M.D., Chicago, Ill.

Papers have also been promised by R. Norris Wolfenden, M.D., London, England; H. Holbrook Curtis, M.D., New York; Carl Seiler, M.D., Philadelphia; E. L. Shurly, M.D., Detroit; Clarence C. Rice, M.D., New York, and M. F. Coomes, M.D., Louisville, Ky.

All those contemplating reading papers before this Section are requested to forward their titles to the Secretary at once.

John O. Roe, M.D., Chairman,
28 N. Clinton street, Rochester, N. Y.
Frank H. Potter, M.D., Sec'y,
273 Franklin St., Buffalo, N. Y.

Section of Dental and Oral Surgery.

1. Address, by Chairman, J. L. Williams, of Massachusetts.

2. "Relation of Tropho-Neuroses to Disease of the Mouth and Jaws, With Special Reference to Syphilitic Necrosis," by G. Frank Lydston, M.D., of Chicago.

3. "How the Vascular Supply is Connected With the Teeth," by A. O. Hunt, M.D.

4. "Vascular Tumors of the Mouth, and Treatment by Injection," by John S. Marshall, M.D., of Chicago.

5. "Electro-Therapeutics," by John L. Gish, M.D.

6. "The Value of Illustration in the Lecture Room," by L. D. McIntosh, M.D., of Chicago.

7. "Adenoid Growths and their Effect on the Mouth," by E. E. Briggs, M.D.

8. "Cure for Cleft Palate by a Double Flap Operation and Closure with the Buried Tendon Suture," by Henry O. Marcy, M.D., of Boston.

9. "Hereditary Dental Anomalies," by Wm. S. Sherman, M.D.

10. "Diseases of the Gums, and their Treatment," by J. Taft, M.D.

11. "Irregularities of the Teeth Caused by Neurotic Conditions," by E. S. Talbot, M.D., of Chicago.

J. L. Williams, M.D., Chairman.
Eugene S. Talbot, M.D., Secretary.

Pediatric Section.

1. "Practical Points in the Sanitation of Child Life," by J. Berrien Lindsley, M.D., Nashville, Tenn.

2. "Sulphonal in the Diseases of Children," by Wm. C. Wile, M.D., Danbury, Conn.

3. "Untwisting as a Method of Reduction of Club Foot" (with exhibition of apparatus), by Chas. F. Stillman, M.D., Chicago, Ill.

4. "Congenital Phimosis with Adherent Prepuce, and some of its Effects," by E. C. Lemen, M.D., Upper Alton, Ill.

5. "Summer Diseases of Children," by W. R. Mackenzie, M.D., Chester, Ill.

6. "Intestinal Diseases of Children," by J. B. Prichard, M.D., of St. Louis, Mo.

7. "Constipation in Children," by George F. Cook, M.D., Indianapolis, Ind.

8. "A Plea for Operative Interference in Peritonitis, with Especial Reference to Peritonitis of Obscure Origin in Children," by G. Frank Lydston, M.D., Chicago, Ill.

9. Address by the President of the Section on "School Life in Relation to Child Life."

MISCELLANY.

Association of American Physicians. — The fifth annual meeting of the Society of American Physicians will be held at the Army Medical Museum Building, Washington, D. C., on the 13th, 14th and 15th of May, 1890. The preliminary programme is as follows:

1. *The President's Inaugural Address, Samuel C. Busey*, Washington.
2. Consideration of the Revised Constitution.
3. Disturbances of Sleep (discussion)—*Referee*, S. Weir Mitchell, Philadelphia; *Co-Referee*, Charles F. Folsom, Boston.
4. Methods of Diagnosis in Diseases of the Stomach (discussion)—*Referee*, Francis P. Kinnicutt, New York; *Co-Referee*, F. C. Shattuck, Boston.
5. Inflammations of the Appendix and Cæcum and the Duty of the Physician regarding them, Norman Bridge, Chicago.
6. Anæsthetic and Non-Anæsthetic Hysteria, Charles L. Dana, New York.
7. Seizures Characterized by Shock and Loss of Consciousness, Israel T. Dana, Portland.
8. The Diathetic Cause of Renal Inadequacy, I. N. Danforth, Chicago.
9. Antisepsis in Midwifery, William T. Lusk, New York.
10. Varicose Aneurism of the Arch of the Aorta, William Pepper and J. P. C. Griffith, Philadelphia.
11. Natural History of Typhoid Fever, James E. Reeves, Chattanooga.
12. What can and should be done to Limit the Prevalence of Tuberculosis in Man? Edward O. Shakespeare, Philadelphia.
13. Migraine, Wharton Sinkler, Philadelphia.
14. Etiology of Pleurisy, especially in Relation to Tuberculosis, A. A. Smith, New York.
15. Report of Cases of Angio-Neurotic Œdema, Samuel B. Ward, Albany.
16. *Notes of a Case of Acronugaly*, by J. E. Graham, Toronto.
17, A Case of Acute Pancreatitis, by R. H. Fitz, Boston.
18. Demonstrations of Pathological Specimens, W. T. Councilman, Baltimore.

The Constitution provides that papers shall not exceed twenty minutes in the reading.

LETTERS RECEIVED.

Dr. A. G. Kimball, Battle Creek, Mich.; Dr. C. E. Lundgreen, Denver, Col.; Dr. Wolfred Nelson, New York; Dr. F. S. Crossfield, New London, Conn.; Dr. W. O. Davis, New York; Sharpe & Smith, Chicago; Louisville & Nashville Railway Co., Nashville, Tenn.; Dr. Henry I. Bowditch, Boston; the Antikamnia Chemical Co., St. Louis, Mo.; Dr. Jerome Cochran, Montgomery, Ala.; Dr. R. M. McFall, Mattoon, Ill.; Dr. R. H. Harrison, Columbus, Tex.; Rio Chemical Co., St. Louis, Mo.; Thomas Leeming & Co., New York; R. G. Dun & Co., Chicago; Annals of Gynecology and Pædiatry, Philadelphia; The Dixie Doctor Co., Atlanta, Ga.; Dr. J. A. Freeman, Millington, Ill.; La Lumiére Electrique, Paris, France; State Medical Society of Arkansas, Little Rock, Ark.; Société Obstétrical et Gynécologique de Paris, Paris, France; Dr. C. H. Hunt, Stanwood, Ia.; Dr. John Wright, Clinton, Ill.; Dr. A. A. Burge, Osanda, Ga.; Ward Bros., Jacksonville, Ill.; August Spankus, Milwaukee, Wis.; Dr. Richard J. Dunglison, Philadelphia; Dr. Alfred Stille, Philadelphia; Dr. F. J. Groner, Big Rapids, Mich.; J. H. Vail & Co., New York; Dr. J. H. Ludwig, La Porte, Ind.; the Upjohn Pill and Granule Co., Kalamazoo, Mich.; the Wm. S. Merrell Chemical Co., Cincinnati, O.; Chesebrough Manufacturing Co., New York; Dr. John F. Moran, Washington, D. C.; Waite & Bartlett Manufacturing Co., N. Y.; Dr. J. Berrien Lindsley, Nashville.

Official List of Changes in the Stations and Duties of Officers Serving in the Medical Department, U. S. Army, from April 5, 1890, to April 11, 1890.

Capt. Arthur W. Taylor, Asst. Surgeon, is granted leave of absence for six months on surgeon's certificate of disability, with permission to leave the Div. of the Pacific, by direction of the Secretary of War. Par. 10, S. O. 78, A. G. O., Washington, April 3, 1890.

Major Robert M. O'Reilly, Surgeon, leave of absence granted in S. O. 24, October 16, 1889, amended by S. O. 252, October 26, 1889, both from this office, is extended one month, by direction of the Secretary of War. Par. 30, S. O. 81, A. G. O., April 7, 1890.

First Lieut. Nathan S. Jarvis, Asst. Surgeon, leave of absence granted in S. O. 34, Dept. of the Missouri, March 20, 1890, is extended fifteen days, by direction of the Secretary of War. Par. 22, S. O. 81, A. G. O., Hdqrs. of the Army, April 7, 1890.

By direction of the Secretary of War, Capt. Marshall W. Wood, Asst. Surgeon, is relieved from duty at Ft. Randall, S. Dak., and will report in person to the commanding officer, Ft. Meade, S. Dak., for duty at that post, reporting by letter to the commanding General, Dept. of Dak. Par. 24, S. O. 82, A. G. O., Hdqrs. of the Army, Washington, April 8, 1890.

Official List of Changes in the Medical Corps of the U. S. Navy for the Week Ending April 12, 1890.

Asst. Surgeon S. S. White, detached from the U. S. S. "Minnesota" and wait orders.

Asst. Surgeon H. N. T. Harris, ordered to the U. S. S. "Minnesota."

Official List of Changes of Stations and Duties of Medical Officers of the U. S. Marine-Hospital Service, for the Two Weeks Ending April 5, 1890.

Surgeon P. H. Bailhache, to represent Marine-Hospital Service at meeting of California State Board of Health. April 4, 1890.

Surgeon Walter Wyman, to proceed to Wilmington, Del., on special duty. March 27, 1890.

P. A. Surgeon P. M. Carrington, granted leave of absence for thirty days on account of sickness. March 28, 1890.

P. A. Surgeon W. J. Pettus, granted leave of absence for sixty days, with permission to go abroad. April 2, 1890.

Asst. Surgeon F. C. Heath, to rejoin station, Detroit, when relieved at Cleveland. April 3, 1890.

Asst. Surgeon J. J. Kinyoun, to proceed to Wilmington, Del., on special duty. March 28, 1890.

Asst. Surgeon J. B. Stoner, relieved from special duty on floating hospital "Stevens;" ordered to assume command of the Service at Pittsburgh, Pa. March 28 and April 4, 1890.

Asst. Surgeon A. W. Condict, to proceed to Cleveland, O., for temporary duty. April 2, 1890.

Asst. Surgeon G. M. Guitéras, when relieved at Pittsburgh, Pa., to proceed to Marine-Hospital, New York, N. Y., for temporary duty. April 3, 1890.

Omitted from previous report:

P. A. Surgeon W. J. Pettus, promoted, and commissioned P. A. Surgeon by the President February 26, 1890.

THE
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ADDRESSES.

BENJAMIN RUSH.

An Address delivered before the American Medical Association at its Annual Meeting in Newport, R. I., June, 1889,

BY WILLIAM PEPPER, M.D., LL.D.,
PROVOST AND PROFESSOR OF THEORY AND PRACTICE OF MEDICINE IN THE UNIVERSITY OF PENNSYLVANIA.

Time, which destroys so much, has dealt kindly with the fame of Benjamin Rush. Like his great master Sydenham he was distinguished during life, and distinguished not through the absence of able rivals, but owing to surpassing power. But as with all true renown his fame has endured and grown, and it seems not unlikely that he will remain forever with us, not, it may be, as the greatest of our physicians, but as the first of our great physicians.

His life of ceaseless, restless activity demands and will repay full description when all interdiction is removed from his private papers. I hazard the prediction that the largest publicity will but show more clearly the purity and intensity of his patriotism, the vivid and unselfish interest shown by him in every question which affected the happiness, the honor, or the prosperity of his country; and the undaunted courage which made it impossible for him to be away from the front in every struggle. But it seems to me that the political services[1] and influence of Rush—important as they were—have comparatively little to do with the position he holds with us to-day. He never was a politician, though often engaged in public affairs. His high spirit, his impetuosity, his transparent character kept him for the most part aloof from political intrigues and dealings in which they would have prevented his success. He never sought political office or preferment. The appointments he held were alike honorable, laborious and unprofitable. He signed the Declaration of Independence, not merely because he was a member of Congress, but because he had been appointed for that specific purpose by the State Convention of Pennsylvania. The appointment followed the presentation of his report, as chairman of the committee to consider the question whether it had become expedient for Congress to declare Independence. This report is a vigorous and animating production; and so closely does it foreshadow the leading features of the Declaration of Independence, that it might appear to be a protocol or rough draft of that immortal document. He discharged with great energy and efficiency the laborious duties of his positions as Surgeon-General, and later as Physician-General of the Army of the Middle Department; and like Washington and Franklin, and others in those primitive days, he refused pay for his public services. During those memorable years he wrote vigorous and influential papers and letters on the organization of the General and State Governments; but even then he was diligent in medical observation and writing.

He shared the doubts of Samuel Adams and

NOTE.—I am indebted to the family of Dr. Rush for the opportunity of consulting and making extracts from some of his correspondence.

A careful examination has also been made of the large collection of letters (for the most part letters written to Dr. Rush) deposited in the Ridgway branch of the Philadelphia Library; with the exception of a single volume presumably containing matter, personal and political, of interest to the historian and biographer which is there held in reserve.

I may add that in order to place myself in a fair position to judge of his work and influence, his entire published writings have been read twice—once rapidly, once critically; and all accessible publications concerning him have been, in very large number, consulted.

[1] The importance and extent of these services may be gathered from this brief statement:

In 1776 (æt, 31) he was a member of the Provincial Conference of Philadelphia, and of the committee to which was referred the great question, whether it had become expedient for Congress to declare Independence. He was chairman of the committee; the report they submitted was adopted and sent to Congress. This report includes nearly all that has been so much praised in the Declaration of Independence, of which it might appear to be the protocol. He was appointed by the State Convention a member of Congress, in order that he might sign that Declaration.

He was appointed Surgeon-General of the Army of the Middle Department in 1776; in 1777 he exchanged this position for that of Physician-General.

He published important papers on public events; especially four powerful letters on the Pennsylvania Constitution of 1776; a remarkable address in 1785 entitled "Considerations on the Test Laws of Pennsylvania;" and many able though shorter articles in 1786-1787 in favor of the adoption of the Federal Constitution. He was a member of the Convention of Pennsylvania for the adoption of that instrument which he thus describes: "It is a master-piece of human wisdom, and happily accommodated to the present state of society. I now look forward to a golden age. The new Constitution realizes every hope of the patriot and rewards every toil of the hero. I love my country ardently, and have not been idle in promoting her interests during the session of the Convention. Everything published in all our papers, except the *Foreign Spectator*, was the expression of our Federal principles." Allusion has been made elsewhere to his successful labors for amelioration of the penal code; it was apparently in large part to accomplish this and the establishment of public schools that he accepted membership in the State Convention in 1787 for the formation of a State Constitution. He was then 42 years of age, and from that time onwards, although he always took a lively interest in every important public question, he devoted his whole energies to the cause of medical science and medical education.

Richard Henry Lee as to the military genius of Washington; and his unshrinking courage and vehement spirit led him into positions and expressions which he doubtless regretted later when time and events had demonstrated the rare qualities of the great leader. But at the same time (1785), he projected the Philadelphia Dispensary, following the example of Franklin in regard to the Pennsylvania Hospital, and devoting himself with equal vigor and success to the collection of funds. He carefully prepared the public mind by describing the advantage of such an institution, for it was the first of its kind in the United States. Public interest being aroused, combined efforts secured such liberal contributions that the Dispensary was placed upon a permanent basis, and for more than a century has continued its unostentatious but precious work. It is needless to remark that its example has been followed in hundreds of places. He had already attained such prominence in medical circles that in 1789, when the College of Physicians was established, he was called upon to prepare an address on the objects of the institution, which is published in the Transactions for 1793. It is a vigorous production, altogether worthy of the occasion, and with far-sighted sagacity it indicates the lines of development along which that venerable institution has grown into such gratifying prosperity.

He was profoundly interested in moral philosophy, and in 1787 read to the Philosophical Society, of which he was one of the most active members, an essay on the "Influence of Physical Causes on the Moral Faculty," which was of such remarkable originality as to attract the widest attention here and abroad. It deservedly occupies the position of a classic. In the same year he became a member of the Convention of Pennsylvania for the adoption of the Federal Constitution and of that for the forming of a State Constitution. He labored, spoke and wrote incessantly, enthusiastically and forcibly,—not for partisan or personal ends, but in obedience to the dictates of a lofty sense of patriotic duty, and to have the chance to press the reform of the penal code, and to promote public education.[2]

He was among the first to oppose capital punishment. Little can be added to the indictment he brings against it as ineffectual and injurious in its influence. Nor did he limit himself to denouncing evils; his mind was essentially practical and his lively imagination was chiefly occupied with suggestions of solid utility. His "Inquiry into the Effects of Public Punishment upon Criminals and upon Society" closes with a powerful plea for a truly reformatory system of punishments. He exclaims, "I have no more doubt of every crime having its cure in moral and physical influence than I have of the efficacy of the Peruvian bark in curing intermittent fever. The only difficulty is to find out the remedy or remedies for particular vices." It is one of Rush's highest distinctions to have contributed powerfully, and probably more than all others, to the amelioration of the penal code subsequently effected.

These were years of activity which we find it hard to parallel, for the range of subjects covered, the vigor of grasp with which each is handled, and the far-sighted sagacity and practical wisdom shown in the reforms urged or the original measures suggested. If he had no other claim to fame, Rush would stand high as a philanthropist and social reformer. He was inspired by no love of notoriety, not deterred by any dread of unpopularity. He denounced the evils of slavery as early as 1771 and was, with Franklin, one of the founders of the Society for the Protection of Free Negroes; of this he was annually elected president after Franklin's death. He espoused the cause of non-jurors, and under the title of "An Inquiry into the Consistency of Oaths with Reason and Christianity," he presented a masterly and convincing argument against such tests. He was a discriminating but decided opponent of the use of ardent spirits. He did not aim at the total prohibition of stimulants, as he held that the weaker alcoholic beverages were comparatively harmless. He did not deny that the use of spirits may be indicated in the low states of certain acute diseases, but he pleaded eloquently for legislation against the abuse of ardent spirits, and he used his immense influence as a teacher and practitioner to discountenance their employment in disease save when absolutely necessary and then only with every precaution to guard against the formation of the alcohol habit.

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[2] The important services rendered to education by Rush merit a separate memoir. He advocated consistently the highest practicable standard of medical education. In 1792 he urged the importance of thorough preliminary study, embracing the modern as well as the dead languages. He insisted upon the study of botany, zoology, and comparative anatomy. With equal force he urged the study of medical jurisprudence, and he was a pioneer in the study and teaching and practice of psychiatry. The admirable address of Dr. C. K. Mills on Rush in American Psychiatry, read before the Medico-Legal Society of New York, Dec. 8, 1886; and the opening chapter in Hack Tuke's recent work (The Insane in the United States and Canada), which is an extended and judicious eulogium upon Rush, render it unnecessary to allude further to this, which must have consumed an immense amount of his time and energy, and which would of itself constitute a just claim to lasting fame.

Veterinary science found in him its earliest champion in America. Throughout his life he pleaded eloquently for the protection of animals from cruelty. In his inquiry into the influence of physical causes on the moral faculty in 1786)he exclaims, "I am so perfectly satisfied of the truth of a connection between morals and humanity to brutes, that I shall find it difficult to restrain my idolatry for the legislature that shall first establish a system of laws to defend them from outrage and oppression." In 1807, he delivered the lecture introductory to his course "Upon the Duties and Advantages of Studying the Diseases of Domestic Animals and the Remedies Proper to Remove them;" and after an eloquent statement of the importance of the subject, and an allusion to the fact that up to that time no veterinary school had yet been established in the United States, he concluded with the following words: "I have lived to see the Medical School of Philadelphia emerge from small beginnings and gradually advance to its present flourishing condition, but I am not yet satisfied with its prosperity and fame, nor shall I be so, until I see the Veterinary Science taught in our University." This wish was not realized during his lifetime—nor until 1884, when the Veterinary Department of that Institution was established.

But it was not only in the promotion of medical education that Rush was strenuous. He published important and influential papers on the establishment of public schools; upon the mode of education proper in a republic; upon the study of the Latin and Greek languages, with hints of a plan of liberal instruction without them; and upon allied subjects. He advocated the establishment of a National or Federal University of which all office holders should be graduates (Mss. letter); and he urged and labored for the establishment and prosperity of several colleges in Pennsylvania, in addition to the long and valuable services he rendered to the University of Pennsylvania. He served on the committee to raise funds for the establishment of Franklin College at Lancaster (now the justly prosperous and celebrated Franklin and Marshall College); he was one of the first Trustees of Dickinson College at Carlisle, a liberal benefactor, and a constant and earnest friend to it throughout his life. I have been amazed at the evidence furnished by his correspondence (Philadelphia Library collection) as to the extent of his labors for this institution—of which indeed it is clear that he was then regarded as the principal founder. Surely this is a noble record of wise and public-spirited activity.

Rush was evidently a perfectionist. His enthusiasm over the possibilities of human nature continually breaks out into expressions of sincere exuberance. I fear he drew his inspirations more from the experience of his own nature, refined and elevated, which required no excitement but the claims of duty, and no pleasure but the pursuit of knowledge and truth, than from the observation and study of men as they actually exist. Very naturally and properly he opposed the use of tobacco as a habit attended with many injurious results. "Were it possible," he begins his observations upon the influence of the habitual use of tobacco upon health, morals and prosperity, "for a being who had resided upon this globe to visit the inhabitants of a planet, where reason governed, and to tell them that a vile weed was in general use among the inhabitants of the one it had left, which afforded no nourishment; that this weed was cultivated with immense care; that it was an important article of commerce; that the want of it produced real misery; that its taste was extremely nauseous; that it was unfriendly to health and morals, and that its use was attended with considerable loss of time and property, the account would be thought incredible, and the author of it would probably be excluded from society for relating a story of so improbable a nature. In no one view is it possible to contemplate the creature man in a more absurd and ridiculous light than in his attachment to tobacco." And so he concludes the same observations by reference to one from whom frequent evidences show that he drew much of his inspiration of humanity. He tells us that Dr. Franklin, a few months before his death, declared to one of his friends that he had never used tobacco in any way in the course of his long life, and that he was disposed to believe there was not much advantage to be derived from it, as he had never met with a man who used it who advised him to follow his example.

I do not touch upon these various points merely as proof of versatility and activity. It is a common thing to see men who acquire a certain conspicuous but temporary fame, owing to the bustling energy with which they assume many positions and mix in many affairs; but it is found that they have won no lasting credit from any of their varied work. But for Rush it is fair to claim that in all the large affairs and questions with which he dealt he showed himself a pioneer and a leader, and that he did work of capital and enduring value. Very much of this depended upon his great gifts as a speaker and as a writer. He was in truth a man of letters of very high rank. Abundant testimony shows that his medical lectures were consummately excellent—clear, impressive, eloquent, and at times instinct with dramatic power. I shall allude again to the immense effect they produced in aiding the diffusion of his medical views. His more elaborate addresses and orations are admirable, and some of them, as those on Cullen and on Rittenhouse, and his address on "The Influence of Physical Causes on the Moral Faculties," are splendid performances. Richardson[3], to whom we owe the most appreciative of recent sketches of Rush, quotes from the eulogy on Cullen what he fitly calls a golden utterance; justly applicable to Cullen, it is a true expression of the spirit which moved Rush. "That physician has lived to little purpose who does not leave his profession in a more improved state than that in which he found it. Let us remember that our obligations to add something to the capital of medical knowledge are equally binding with our obligations to practice the virtues of integrity and humanity in our intercourse with our patients. Let no useful fact, therefore, however inconsiderable it may appear, be kept back from the public eye; for there are mites in science as well as in charity, and the remote consequences of both are often alike important and beneficial. Facts are the morality of medicine; they are the same in all countries and throughout all times."

However he may have acquired it, he was master of a style in writing, of rare clearness, force and flexibility. It lends a charm to every production of his pen. His letters to his family and intimates, the discussions of important public questions, his dissertations upon medical topics, are alike composed in this attractive style. Compact and well thought out arguments; vivid bursts of imagination and passages of glowing eloquence; bits of description of microscopic accuracy; apt illustrations, drawn from nature, history, literature, art, most of all from Holy Writ; sententious phrases; these are separate merits of the style, through all of which there breathes such candor and earnestness and humanity that the reader finds himself delighted with the man, as well as with the author.

If time permitted, it would be easy to show that in the vital matter of education he was as active, as progressive, and as far ahead of his contemporaries, as he was in social science. I dare not even allude to his advanced views on the education of women, or I should be drawn into an extended eulogy of his position upon this question, which now, more than a century later, is but beginning to receive the attention its immense practical importance demands. His labors for the establishment of the public school system; his suggestions of "A Mode of Education Proper in a Republic;" his "Observations Upon the Study of the Latin and Greek Languages as a Branch of Liberal Education, With Hints of a Plan of Liberal Instruction Without Them," and his "Defense of the Bible as a School Book," may be pointed out as evidences of what I have claimed for him.

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[3] The Asclepiad, 1885. B. W. Richardson, M.D.

What deep gratitude must we ever owe, for our national stability and prosperity, to the illustrious men, among whom Rush was notable, who recognized instinctively that universal education, thorough, sound and broad, was the only safety of the new Republic, and who continued the devoted efforts which had won from foreign oppression our liberties, in order to ensure us the means of maintaining them against no less deadly dangers at home.

In every portion of Rush's writings we find constant evidence of his genuine, unaffected piety. There is a vein of truth and sincerity in it which cannot be mistaken. Unquestionably he had his hard struggles with himself, with a nature excitable, sensitive and self-asserting. He stood in the slippery places of rapid success and early popularity. It was a time when men's blood was up. Opinions were held tenaciously and fought for willingly; but throughout his writings, public and private, the subject of religion is continually referred to, and invariably in the most reverential tone, without a tinge of polemics or of sectarianism. Indeed, he urged, in a remarkable "Address to the Ministers of the Gospel of Every Denomination," published as early as 1788, that each sect should appoint a representative in a general convention of Christians, whose business shall be to unite in promoting the general objects of Christianity. He concludes: "America has taught the nations of Europe, by her example, to be free, and it is to be hoped she will soon teach them to govern themselves. Let her advance one step further and teach mankind that it is possible for Christians of different denominations to love each other and to unite in the advancement of their common interests. By the gradual operation of such natural means the kingdoms of this world are probably to become the kingdoms of the prince of righteousness and peace." It is true that to the end of his life Rush continued to be active in the cause of philanthropy, of education, and of religion; but we shall see that after the year 1789 his great work was purely medical. The almost incredible fact appears, then, that in twenty years up to that date, when he was but 46 years of age, he had already accomplished so much in public life, both political and medical; in professional work, as a teacher, as a writer and as a practitioner; in statesmanship, in philanthropy, in education and in social science, as to secure lasting fame as a thinker of power and originality, and as a writer and orator of high rank. But a no less remarkable, and probably to us the most interesting, period of his life was to follow. Sydenham died in 1689, and just 100 years later, in 1789, Rush was elected to the chair of the Theory and Practice of Medicine in the College of Philadelphia, to fill the vacancy caused by the death of Dr. John Morgan.[4]

When we consider how important he rendered that position, and what lustre his subsequent work reflected upon the medical profession and upon medical science, it is not unreasonable that we should take note of this Centennial Anniversary of an event of the greatest significance in the history of American medicine.

The air still vibrates with the national outburst of homage to the memory of the greatest of our heroes. The Centennial Anniversary of the Inauguration of Washington was fittingly made the occasion not only to illustrate our marvellous growth in power and prosperity, but to commemorate the character and services of that incomparable man. It may be that it was a thrill of sympathy with that fine retrospect, which made me feel that, in the discharge of the most difficult duty assigned to me to-day—of addressing this great audience representative of all branches of our profession in all sections of our land, it might not be amiss to select a topic which would remind us that for us members of the American medical profession this is an Anniversary year in an added sense.

The truth is that Rush was at all times and in all places and before all else a great physician. He had entered public life from a sense of patriotic duty; he had labored for the improvement of society because he was irresistibly impelled by his large humanity; but he threw himself into the service of medicine with passionate intensity. Ramsay, a favorite pupil and intimate friend, tells us that Rush wrote to him: "Medicine is my wife, science is my mistress, books are my companions, my study is my grave." As a matter of fact he married at the age of 32 years, and was so fortunate as to secure the hand of a woman whose character, charms and ability made their union a singularly happy one. At the close of his life, writing of the causes of insanity, he uses the following orthodox language: "Celibacy is a pleasant breakfast, a tolerable dinner, but a very bad supper. The supper is not only of a bad quality but, eaten alone, no wonder it sometimes becomes a predisposing cause of madness." Still we find him saying in 1808, in allusion to his death: "When that time shall come, I shall relinquish many attractions to life, and among them a pleasure which to me has no equal in human pursuits. I mean that which I derived from studying, teaching and practicing medicine."[5]

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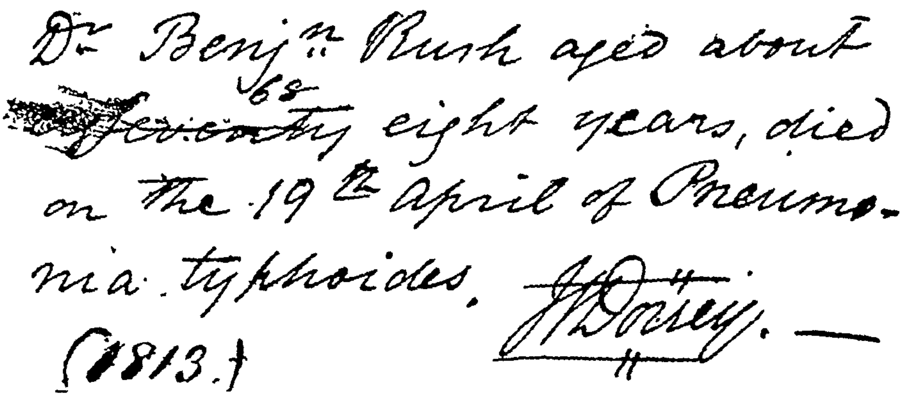
[4] In 1791, when the charter and estates were restored to the college, a reorganization was effected and the institution assumed the title of the University of Pennsylvania. Dr. Rush became the Professor of Institutes and of Clinical Medicine in the University. In 1797 he filled also the chair of Practice resigned by Dr. Kuhn in that year, though he appears not to have been formally elected to the latter position by the Trustees until 1805.

Through the courtesy of Mr. Ferdinand J. Dreer I am enabled to reproduce here a facsimile of the certificate, given by Dr. Dorsey, as to the cause of Dr. Rush's death:



Dr Benjn Rush aged about ~~Seventy~~ 68 eight years, died on the 19th April of Pneumonia typhoides. J Dorsey. —

(1813.)

From 1789 to 1813 the history of Rush's work is largely the history of American medicine. We speak of the age of Sydenham, and date the origin of modern English medicine from it. So, if we limit ourselves to American medicine, may we speak of the age of Rush, and date from it our modern system of exact observation of symptoms, and strict attention to details of treatment both hygienic and medical. It is obvious that Rush was profoundly influenced by the genius of Sydenham in science, as he was by that of Franklin in philanthrophy. Sydenham was born in 1624; published his first important treatise in 1666, and died in 1689; and although Rush, when a student at Edinburgh under Cullen, was charmed with the teachings of that brilliant man, so soon as he began his independent observation he felt the trammels of artificial and cumbrous nosologies, and was attracted to the natural and scientific method of Sydenham, himself a true Baconian. Rush calls Sydenham his master in medicine, and loses no opportunity of proving by his writings his veneration for his genius and his example. When he came to choose a name for the country-seat which he so dearly loved as the only place where he found rest and tranquility, he called it Sydenham. Posterity, which Rush truly said is to the physician what the final judgment is to the Christian, has judged the pupil a worthy associate of the master, and has given Rush the title, which he would have regarded as the highest earth could bestow, of the American Sydenham. It is a sure sign of his essential greatness that the names chosen for comparison have been so illustrious. He was a Fothergill in the range of his scientific and human interests; he showed in his best work much of Sydenham's incomparable power of observation of the symptoms of disease and of appreciation of the indications for treatment. Rush enjoyed the immense advantage of living after Sydenham; but the latter had Hippocrates as master and exemplar. The special conditions under which great men do their work will always influence much its direction and its range. But the essential qualities of greatness; the rare note of genius; the power of infinite labor; the close touch with nature and with truth—such marks distinguish the work of men like these in whatever field and to whatever extent they have worked. Close comparison is impossible; it is enough to recognize that they belong to the small group of Nature's most gifted children.

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[5] The following account of Dr Rush's death, in 1813, is copied fro[illegible] paper all t[illegible]ir dear and ever to be lamented friend You can make any alteration in the order or words you think proper, and make such use of it as will answer the object you have in view Yours with great regard,

JULIA RUSH

Friday, December 8, 1815

"At 9 o'clock on the evening of Wednesday, the 14th of April Dr Rush (after having been as well as usual through the day) complained of chilliness and general indisposition, and said he would go to bed While his room was preparing and a fire making he became so cold that he called for some brandy, which he immediately swallowed then went to his room, soaked his feet and got into a warm bed and took some hot drink A fever soon came on, attended with great pains in his limbs and in his side He passed a restless night but after daylight a perspiration came on and all the pains were relieved except that in his side, which became more acute He sent for a bleeder, who took 10 ozs of blood from his arm this gave him great relief At 10 o'clock Dr Dorsey saw him, heard what had been done and approved of it, observed that his pulse was calm but rather weak, and advised him to drink plentifully of wine whey, which was immediately given to him He remained the rest of the day and on Friday with but little apparent disease, though never quite free from fever, and always complaining of the pain in his side when he tried to take a long breath On the morning of Saturday he awoke with an acute pain in his side, and desired that the bleeder might be sent for To this I objected, on account of the weak state of his pulse I purposed to send for Dr Dorsey, but Dr Rush would not consent to the doctor's being disturbed, but was anxious to lose blood He reminded me that he had a cough all winter and said, This disease is taking hold of my lungs, and I shall go off in a consumption ' I thought less risk would be run in waiting a few hours than in suffering him to be bled without the advice of his physician At 8 o'clock Dr Dorsey saw him but upon feeling his pulse objected to his losing blood, and called in Dr Physick, who agreed in the opinion that bleeding was improper and it was not done The pain in the side continuing and his breathing becoming more difficult Dr Physick consented to his losing 3 ozs of blood from his side by cups This operation relieved him so that he fell into a refreshing sleep, and towards the evening of Saturday his fever went off and he passed a comfortable night and on Sunday morning seemed free from disease When Dr Physick saw him he told me he was doing well, that nothing appeared now necessary but to give him as much nourishment as he could take He drank porter and water, and conversed with strength and sprightliness believing that he was getting well till about 4 in the afternoon when his fever came on again, but in a moderate degree, At 5 his physicians saw him and found him not so well as in the morning but not appearing to apprehend what so soon followed for at that time nothing was ordered different from the morning At 9 o'clock they saw him again, when they found him so low as to threaten the most fatal termination to his disease Stimulants of the strongest kind were then administered, you, my friend, know with how little effect "

We may judge of Rush's excellence as a teacher, and of the influence which he exerted on his age, by the testimony of his pupils. From all parts of America, students resorted to Philadelphia to profit by his instructions. In the mass of letters I have examined there are hundreds bearing testimony to this. Competent critics declare that for clearness and impressiveness his lectures were unrivaled. He so simplified the subject, presented such broad and clear generalizations, that Ramsay asserts a student could be better prepared for entering on his profession in three years, than he could on the former system in five. This was not because he taught on the famous plan of Sangrado, who said to Gil Blas: "I will immediately disclose to thee the whole extent of that salutary art which I have professed so many years. Other physicians make this consist in the knowledge of a thousand difficult sciences; but I intend to go a shorter way to work, and spare thee the trouble of studying pharmacy, anatomy, botany and physics; know, my friend, all that is required is to bleed the patients and to make them drink warm water." Far from it. He was, indeed, the earliest and strongest advocate for a high standard of medical education, as has been forcibly shown by one of our ablest scholars, himself a successor of Rush and a former President of this Association.[6] I know that malignant envy started and apathetic credulity has perpetuated the false opinion that Rush's method of cure was equally sanguinary. I know that, as will always happen to impressive teachers, there were students of Rush who carried away recollections of his vigorous treatment in certain cases, without an appreciation of the special indications present, nor of the reasoning which forbade similar measures in other cases apparently analogous, but to the trained judgment widely distinct. Of one of his students I was told by an old friend that she remembered vividly how on every visit of the doctor some blood was shed; and that, on one occasion, as he entered, her mother remarked that one of the children had a bad cold and added, "Of course I shall send for the bowl." Upon which the physician rejoined, justly incensed at this suggestion of mere routine on his part: "Not *of course*—you shall not send for the bowl *of course;* but ——— may fetch the bowl;" and bled the child was with unusual freedom.

I hold it to be absolutely impossible for us of to-day to pronounce adversely upon the merits of the treatment of Sydenham or even of the more modern Rush. In the first place, the entire subject is dominated by our more exact methods of diagnosis,[7] and by our larger knowledge of the natural history of diseases. It is evident that even those skilful observers were often misled, and treated local diseases as continued or malarial fevers, and attributed to their treatment changes which were essential to the course of the disease. But again, granting the largest share to this source of fallacy, it is to us impossible to doubt that they were right in regarding different epidemics as requiring different treatment. Sydenham[8] says: "This at least, on the strength of a multiplicity of accurate observations, I am convinced of, viz., that diseases of the character alluded to, and more especially continued fevers, differ from one another like north and south, and that the remedy which would cure a patient at the beginning of a year, will kill him perhaps at the close. Again; that when by good fortune, I have hit upon the true and proper line of practice that this or that fever require, I can (with the assistance of the Almighty), by taking my aim in the same direction, generally succeed in my results, respect being always had to the age and temperament of the patient, and to the other matters of the same sort. This lasts until the first form of epidemic becomes extinct, and until a fresh one sets in. Then I am again in a quandary, and am puzzled to think how I can give relief. And now, unless I use exceeding caution, and unless I exert the full energies of my mind, it is as much as (nay, it is more than) I can do to avoid risking the lives of one or two of the first who apply to me as patients; at length, however, I steadily investigate the disease, I comprehend its character, and I proceed straight ahead, and in full confidence towards its annihilation." Thus when he writes of the continued fever of 1661 to 1664, he says: "Whenever the state of the blood is of such description as I find it amongst youths of an athletic habit and a sanguine temperament, venesection is my leading remedy. Except in certain cases, it can not with safety be admitted. Neglect it, and you run the risk of frenzies, pleurisies and such like inflammations, which originate in the preternatural ebullition of the blood. More than this, —from the excess of the blood the circulation is impeded. You smother it. As to the quantity, it is my practice to take away just so much blood as I consider will relieve the patient of the distress, to which the violent commotion makes him liable." Yet in these same epidemics he states that when he has to do with a patient whose blood is in itself of a weak character, he keeps his fingers off the lancet. And when he discusses the pestilential fever of 1665-66 he asserts that he found an adequate substitute for venesection in profuse diaphoresis.

It appears that Rush actually bled more systematically than Sydenham. Ramsay says: "In a review of the improvements made by Dr. Rush, it appears that a free use of the lancet, in almost every case, and particularly in some in which it had rarely or never before been used, was one of his first and most common prescriptions." A careful study of Sydenham, to omit entirely such famous bleeders as Botallus, scarcely supports the former part of this statement, where frequent venesection is spoken of as an improvement introduced by Rush. Certain it is that in the later epidemics which Rush records he thought bleeding was less urgently indicated. Equally certain it is that in treating fevers he conjoins with venesection, the scientific external use of cold water, and a rigidly careful prescription of the diet. Finally, let it be remembered that the fame of Rush and of his methods of treatment in fevers, must, whether for good or for bad, be based chiefly upon his course in the great epidemic of 1793. Let any one who desires to fully appreciate this great man: nay—I would even say let any who desires to appreciate the highest elevation of emotion, of thought, and of action which can be maintained continuously throughout weeks and months—read and re-read Rush's account of this epidemic. It was published in 1796 when the events were fresh in the minds of all. It at once took the place which it has maintained as the best—or if not the very best, as one of the half-dozen best histories ever published of epidemic diseases. There is scarcely needed the extraordinary "narrative of his state of body and mind during the prevalence of the fever"—a narrative which Richardson describes as a ghostly whispering, through a veil of nine-tenths of a century—to reveal the man's inmost nature and thoughts during this terrible ordeal. He may have erred in his conclusions as to the effects of the evacuant treatment. The evidence in its favor is not his alone; some of the ablest of his colleagues endorsed his statements; his pupils, who were his assistants, said, "we cure all we are called to on the first day." Of course the exalted and exhausted state of mind shared by all the physicians who remained at their post, or whose lives were spared, was not favorable to the exercise of cool judgment; yet the record which Rush has given us is so replete with minute and accurate observations evidently made at the moment and at the bedside, that one finds it difficult to distrust his opinion as to the effect of bleeding and purging when used at the very earliest hour of the attack.

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[6] Alfred Stillé, M.D. Medical Education in the United States, 1846. Dr. Stillé held from 1864 to 1884 the chair formerly filled by Rush.

It is impossible to avoid a certain enthusiastic sympathy with Rush as we read his account of his labors and sufferings. For upwards of six weeks he did not taste animal food or fermented liquor; he abandoned all precautions, and rested himself on the bedside of his patient, and drank milk and ate fruit in their sick rooms; he visited over a hundred fever patients daily, and his house was filled with the poor whose blood, from want of a sufficient number of bowls, was often allowed to flow upon the ground; he lost his sister who had refused to leave him, and within an hour of her death he was in his chaise driving to visit his patients; he was ill himself, but recovered after repeated bleeding and purging; he was villified and slandered, but he fought his professional rivals with his pen as he did the fever with his lancet; and it was not until the epidemic was on the wane that he finally yielded to the disease and had a dangerous attack from which he recovered slowly, after plentiful bleedings.

In the plague of 1665, Sydenham acknowledges that he was persuaded by his friends to leave London, for, as he says, "*Tua res agitur paries quum proximus ardet.*" He returned earlier than his neighbor, however, and finding the disease still raging, he preferred experience to theory and bled freely and as he thought successfully. But Rush quaintly records: "It pleased God to enable me to reply to one of the letters that urged my retreat from the city," that "I had resolved to stick to my principles, my practice and my patients, to the last extremity."

Other physicians showed the same heroism, but he was the acknowledged leader, and it was their sincere conviction that a battle was being waged for a principle of vastly more importance than the fate of any one community. Rush began to treat the fever upon a stimulating plan; his failure led him to try diaphoretics, and later to use the cold bath as a febrifuge. Finding that no good followed; he was led to believe that the debility was apparent, and resulted from an oppression of the system, and he consequently began an evacuant plan of treatment, which he rapidly developed into a method for abstracting excess of stimulus from the system by means of *purges*, *blood-letting*, *cool air*, *cold drinks*, *low diet*, and *application of cold water to the body*. He asserts that the change of result was immediate; so that within a short time and during the height of the epidemic he could record in his note-book: "Thank God! out of one hundred patients, whom I have visited or prescribed for this day, I have lost none." Well might he add: "Never before did I experience such sublime joy as I now felt in contemplating the success of my remedies. It repaid me for all the toils and studies of my life. The conquest of this formidable disease was not the effect of accident, nor of the application of a single remedy; it was the triumph of a principle in medicine."

No conqueror could feel greater triumph when the crown of a vanquished empire was placed on his head; no explorer more delight at the sight of a new and long sought continent.

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[7] See works of Sydenham, Sydenham Soc. Ed., i. p. 163, for an example of this.

[8] Medical Observation, Sydenham Soc. Ed., Vol. 1, chap. 9, p. 33.

"Then felt he like some watcher of the skies
When a new planet swims into his ken;
Or, like stout Cortez, when with eagle eyes
He stared at the Pacific, and all his men,
Gazed at each other with a wild surmise
Silent, upon a peak in Darien."

It is well for us who toil in paths which lead to little of worldly renown or glory to be reminded that to the faithful students of Nature and of Science there may come such moments of fruition and of sublime joy.

I repeat, then, that it seems to me difficult to believe that in certain fever epidemics, and when used with strict regard to the constitution of the patient, and when used in the forming stage of the disease, bleeding, as used by Sydenham and Rush, may not be at times beneficial. Occasion stays for no man. I am afraid that in our day of refined diagnosis it not rarely happens that the chance of effective interference in acute disease is lost while we examine the secretions and the record of temperature and search the blood. Sydenham wisely said: "I well know that the chance of a patient's death or recovery depends chiefly, if not wholly, upon the treatment of the first few days."

Once more, the statistical method, which has done such good service in checking perturbative treatment and in determining the natural history of diseases, was unknown in the days of Rush. It would have been impossible, with the faulty diagnosis of that time. For indeed we are learning, that many of the conclusions based upon it during the past fifty years are inconclusive in the light of the more exact differential diagnosis of to-day. We shall never again bleed for the name of a disease. Neither Sydenham nor Rush did that, though their less wise imitators did. But we shall learn to appreciate the dynamics of the system so accurately that, even when the disease is due to specific microbes or to poisonous ptomaines, we may possibly be able to relieve urgent symptoms and avert serious complications by timely moderate venesection. In all infectious disease, from scarlatina to tuberculosis, it is a question both of the soil and of the specific poison, and the symptoms and course of the disease are not simply the life-history of the microbe, but they are also the expression of the reaction of the system and of the secondary disturbances of function.

And lastly, let us remember the marvellous wealth of our resources as contrasted with theirs. We can produce startling therapeutic effects with precision and ease. Organic chemistry is daily giving us new agents of tremendous power. We are surely able to produce some of the results formerly attained by bleeding and by purging, by means less inconvenient and possibly less hazardous; but we may be assured that in this abundant wealth of remedies and in this facility of administration lie grave dangers. Let any one who would learn how a master of our art gained his skill in using his tools note carefully the utterances of Sydenham on the indications for opium in different diseases: "To know it only as a means of procuring sleep, or of allaying pain, or of checking diarrhœa, is to know it only by halves. Like a Delphic sword, it can be used for many purposes besides. Of cordials it is the best that has hitherto been discovered in nature. I had nearly said it was the only one." Sydenham and Rush had a few remedies which their long experience and minute observation taught them to use skilfully for the relief of many symptoms. We have many remedies for every symptom, and I fear that few of us devote enough scrupulous care and patient study to learn thoroughly the varied powers and applications of any of them. So this seems not only a good apology for the former use of bleeding, but a needed warning to us as to the careful and skilful use of our new weapons against disease, and a forcible suggestion that we may have erred in so completely abandoning remedies which had been so long and carefully tested, and so highly approved.

We have seen that Rush believed in principles in medicine. He did more—he gloried in these principles, and he wished his only epitaph to be that he had taught them. And in no way are the independent character and the intellectual vigor and originality of the man more strikingly shown than in his attempts to reduce the infinitely complex phenomena of disease within the compass of a simple but comprehensive system. "Rush," says the distinguished English physician, Lettsom, with whom originated the title of the American Sydenham, "approached, if not exceeded, Sydenham in grandeur and compass of thought, though less discriminating in that felicitous arrangement of medical phenomena which distinguished Sydenham, whilst his theories were less consonant with nature. To Sydenham the motto *Conamen naturæ* is most applicable; to Rush, *Nullius in verba*." I make this quotation with no notion of attempting the difficult and unwise task of a judicial comparison of these two great physicians, but because such expressions may help us to form a clearer estimate of the special merits of each. Full of interest also, from this point of view, is the appreciative and critical summary of Sydenham's great life work by his most distinguished editor and biographer, Latham; "for he had recognized, what is now an old truth, what was then a new one, and what is always a great one, the entire supremacy of direct observation. He was one of the earliest to see and apply the true induction of medicine, while in the powers of observation, of analysis and of comparison he was subtle among the subtle, and accurate among the accurate. For practice these were all that Sydenham required; for the development of a system he wanted also the reduction of his observations, both on disease and treatment, to laws more or less general. The intellectual powers here requisite were less, undoubtedly, the peculiar powers of Sydenham's mind, than the powers of observation, analysis and comparison."

It goes without saying that any theories constructed in those days, or in the time of Rush, could have been provisional only, owing to the want of instruments of precision to register exact observations, and the want of accurate differential diagnosis. It will suffice, however, that we read carefully the volume of Rush's medical inquiries to be convinced that we are in the presence of a scientific spirit of rare scope and power. It is easy to pick out instances of theorizing pushed beyond legitimate bounds, and of practice based on such theories carried beyond the limits of safety, as we now can define them. All are familiar with the oft-quoted advocacy of bleeding in pulmonary consumption; but all have not taken pains to study the original, where they could see that Rush's views on the treatment of this disease were far in advance of those of his contemporaries, and, indeed, were in harmony with much of the best thought of the present day. So far from advocating depletion and confinement to stove-heated rooms, he says himself:[9] "Blood-letting has often relieved consumption, but it has been only by removing the troublesome symptoms of inflammatory diathesis, and thereby enabling the patient to use exercise or labor with advantage." Again (id. loc.): "We shall not be surprised to hear of physicians, instead of prescribing any one or all of the medicines formerly enumerated for consumption, ordering their patients to exchange the amusements or indolence of a city for the toils of a country life; or of their recommending not so much the exercise of a passive sea voyage, as the active labors and dangers of a common sailor. . . . . I shall only add that if there does exist in nature such a medicine (as to supply in any degree the place of the labors or exercises), I am disposed to believe it will be found in the class of tonics."

More than enough has been said, I am confident, to vindicate the lofty claims made for Rush as the high-spirited patriot, the wise and far-seeing reformer and philanthropist, the eloquent teacher and writer, and, above all, as the founder of scientific medicine in America, keen and indefatigable in investigation, brilliant and vigorous in generalization, faithful and sagacious in the application of his principles in practice. This imperishable fame is fairly his; his splendid example he has bequeathed to us. Is it not our duty, shall it not be our pride, to rear in enduring form a fitting memorial of our gratitude?

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[9] Medical Inquiries and Observations, 2d ed., 1795, Vol. i, p. 199

ORIGINAL ARTICLES.

INCOMPLETE INWARD DISLOCATION OF THE RADIUS AND ULNA AT THE ELBOW.

Read by Title in the Section of Surgery and Anatomy, at the Fortieth Annual Meeting of the American Medical Association, June, 1889.

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Some writers who have devoted especial attention to the subject of lateral dislocations of the forearm have had an unusually large experience. But there are many able surgeons whose experience appears to be quite limited in this respect. Pitha, for instance, whom Bardeleben quotes as a surgeon of large experience, met with only two cases of inward dislocation. The literature of this country and Great Britian appears to be particularly deficient in any special reports on this form of dislocation. Aside from the descriptions in the text books of the inward dislocation, which in most cases are very meagre, very few reports of cases could be found. The scarcity of reported cases of this kind in American literature may be due to the fact that but few cases have been observed in this country, or the true nature of the dislocation was not recognized, or there may be some who have failed to reduce the dislocation, and therefore refrained from reporting their cases; and on the other hand, some, who may have reduced the dislocation without much difficulty, may not have regarded their cases of sufficient importance for publication. Under these circumstances it appears desirable that cases, whether reduced or not, should be reported and the literature reviewed.

When the upper end of the ulna has been pushed to the inward side of the lower end of the humerus, so that its greater sigmoid cavity embraces the epitrochlea, and the head of the radius following the ulna is under the trochlea, we have the incomplete inward dislocation of the forearm, or of the radius and ulna at the elbow. Both the radius and the ulna are dislocated completely when considered singly. The greater sigmoid cavity of the ulna has been completely separated from its former opposite articulating surface, the trochlea; as has also the head of the radius been entirely separated from its opposite articulating surface, the capitellum of the humerus. But viewing the upper and lower articulating surface of the elbow joint, each in its entirety, the dislocation is incomplete, because the outer portion of the surface, the radius, remains in contact with the inner portion of the articulating surface of the lower end of the humerus. Another reason for applying the term incomplete to this form of dislocation, is to distinguish it from that form where the bones of the forearm are displaced so far inwards, that the radius looses all connection with the articulating surface of the lower end of the humerus. It should be stated, however, that this complete inward dislocation is merely theoretical, as no case can be found recorded.

Descriptions of subdivisions of this dislocation have been attempted, but none have been sufficiently characteristic to be generally accepted. Denucé speaks of a possible dislocation in which the sigmoid cavity of the ulna embraces the inner border of the trochlea, but says this form is hardly possible. The inner border of the trochlea has a relatively much larger circumference than the middle portion, and it would probable require very little force to reduce the dislocated ulna, or to push it inwards to such a degree that the sigmoid cavity entirely leaves the trochlea. Moreover, this is all the more probable when it is remembered that there is a ridge in the centre of the sigmoid cavity running parallel to the long axis of the ulna, from which the surface declines to each side, or, in other words, the sigmoid cavity presents a convex surface in the transverse lines. This convex surface would not likely remain on the sharp inner edge of the trochlea unless some unusal impediment prevented it from slipping to one or the other side. There is one case described by Sprengel, in which this position of the bones was demonstrated by resection of the anchylosed elbow joint seven months after receiving the injury. In this case only a part of the inner portion of the greater sigmoid cavity projected beyond the inner edge of the trochlea. But on the free surface of the sigmoid cavity a small piece of bone was found attached by fibrous tissue, which proved to be the severed point of the epitrochlea. In some cases the head of the radius is forward or posterior to the ulna, and subdivisions of radio-posterior and radio-anterior variety have been suggested. This displacement is not usually very marked. In some reports of cases it is stated that the head of the radius could best be felt at the anterior, others at the posterior surface of the joint; but most of the reports contain no note of this.

Case.—N. S., æt. 3½ years, on April 8, 1885, fell on the floor while running with a doll in her hand—she fell on the forearm and hand while holding the doll.

When I examined the child I found considerable swelling at the elbow joint. The arm was held in a slightly flexed position, the hand pronated moderately. Flexion and extension, though somewhat painful, could be made without much difficulty; supination and pronation the same. No shortening of the arm could be detected. There was no crepitation. The swelling interfered considerably in making a careful examination, but no displacement of the bones could be detected. The absence of crepitation, the freedom of motion, and the absence of any very marked deformity led me to think that there was not much more than a laceration of the deep soft structures of the joint or its surroundings; but a positive diagnosis was reserved for a later time when the swelling had subsided.

Several days after receiving the injury, when the swelling had disappeared, a careful examination was again made, and now it was evident that the radius and ulna were displaced to the inward (ulnar) side. The external condyle was very prominent. The head of the radius could not be felt at its usual place under the capitellum. The olecranon could not be felt in its fossa, but was found behind and above the epitrochlea. The head of the radius could now be felt with some difficulty under the trochlea. Passive motion was still somewhat painful but good. An anæsthetic was given and reduction attempted, but failed after repeated efforts. This was followed by swelling and tenderness of the joint.

Four or five days later, after the swelling was again reduced, another attempt was made to reduce the luxation while the patient was completely under the influence of an anæsthetic. This time I was assisted by Drs. Hoge, Wilson and Bates, Jr. Various methods were tried. Extension and counter extension with lateral pressure on the displaced bones while the forearm was in different stages of flexion, and in complete extension was tried, but failed. Forced lateral inward flexion, so as to hook the olecranon in its fossa, followed by hyper-extension and outward flexion to lift the coronoid process over the inner edge of the trochlea was also tried. The joint was very lax, and it appeared as if reduction could certainly be accomplished. But the persistent efforts by myself and the gentleman present, and according to various methods suggested, having failed, the attempts to reduce the dislocation were abandoned. The violence done to the joint at this attempted reduction was followed by very much swelling and discoloration of the elbow and entire forearm. This gradually disappeared and instructions were given to continue passive motion.

March, 1889. Four years after receiving the injury the dislocated elbow was again examined. The displacement of the bones is the same as described above. There is no shortening of the arm. The diameter of the joint is about the same as that of the uninjured arm. When the arm is held in an extended position, the hand being supinated, the lower end of the axis of the forearm is deflected inwards, so much so that the axis of the arm forms an angle with the axis of the forearm, the concavity of which is on the inner side of the arm, instead of the outer side as on the uninjured side. Active flexion, extension, supination and pronation is about as perfect as with the left arm.

Cause.—Some few cases of this form of injury are reported where the patient fell on the elbow, but in most cases it is stated that the patient fell on the outstretched hand. A second factor, however, seems to be necessary to displace the articulating surfaces of the elbow joint. It is generally accepted by those who have written on the subject, that this second factor is a forced rotation inwards of the forearm. Forced lateral flexion, to the external side, sufficient to rupture the internal lateral ligament followed by a slight torsion of the forearm, may also cause this dislocation. Hamilton reports a case observed by Squier resulting from a fall from a pile of boards, the right arm was caught between the boards, and the child turned a somersault while falling. Pitha reports a case of a boy who fell on his back with the forearm under the same. Denucé reports a case of a lady who was thrown from a carriage, she fell on her hand, the arm being extended. The carriage wheel passed over it obliquely from without inwards, and from behind forwards upon the outside of the elbow immediately below the articulation. In the case of Reid, a gamekeeper while wrestling, "was thrown upon his left elbow whilst it was in a semi-bent position." Prewitt reports the case of a girl, æt. 5, who, while "swinging upon a trapeze, holding the crossbars with her hands, was pushed by a boy so as to swing up several feet when she lost her hold, and fell upon her right elbow." The last two are the only cases I could find in the literature, where from the description there can hardly be any doubt that the injury was received by a fall upon the elbow.

Pathology.—Pitha and Denucé have shown that the incomplete inward dislocation of the forearm can be produced without much difficulty on the cadaver. The experiments of both show that rupture of the lateral ligaments, particularly the internal ligament, is necessary to bring about the dislocation. Rupture of the capsule alone in its anterior or posterior portion, will not permit the lateral dislocation if the internal lateral ligament is not severed. The inner ligament can be ruptured by making forced external lateral flexion, then slight hyper-extension with lateral pressure at the joint, or better still, forced pronation will carry the coronoid process and olecranon over the inner border of the trochlea. After dissection of the dislocated joint as produced upon the cadaver, Denucé usually found both lateral ligaments ruptured, the anterior and posterior ligaments lacerated, the annular ligament was ruptured sometimes. The ulnar nerve was found contused in some experiments.

Broca has described the results of a dissection of what was evidently an old case of incomplete inward dislocation. He says: "No traces of the lateral or of the annular ligaments were found. A sort of fibrous capsule of recent formation, adherent to the deep surfaces of the muscles, united the inferior extremity of the humerus to the head of the radius, and the latter to the superior extremity of the ulna." Jolivet reports having found three pathological ligaments in a dissected specimen: "1. A ligament extending from the articular depression on the head of the radius to the posterior inferior part of external articular half of the trochlea. 2. A ligament from the articular cavity of the coronoid process to the epitrochlea. 3. A ligament extending from the posterior and internal border of the epicondyle to the superior part of the external border of the olecranon. The latter was more considerable than the others and triangular in form."

Frequency.—Of twenty-seven cases of incomplete inward dislocation at the elbow found in the literature of the subject, where the side of the injury is mentioned, fourteen were on the left side and thirteen on the right side. Of thirty-one cases where the sex is given, twenty-one were males and ten were females.

Hahn was probably the first to show that this dislocation occurs most frequently during childhood. He had an unusually large experience having met with twenty-one cases, of which eighteen were below 15 years old and only three above that age. Of thirty-one cases reported, including those of Hahn, twenty-three were from 2 to 15 years old, and eight were adults. If to this number I add my own case, it will appear that nearly 78 per cent. occurred during childhood.

Comparing the incomplete inward dislocation with other dislocations at the elbow, the following data were obtained. Hahn met with twenty-seven backward dislocations to twenty-one incomplete inward dislocations, showing that in his experience the latter dislocation is almost as frequent as the former. Of his twenty-seven backward dislocations fourteen were adults and thirteen children. Sprengel found thirty-two cases of lateral (including outward as well as inward) dislocations of the elbow on record in the surgical clinic at Halle (Volkmann) during the years 1873 to 1879. Of this number twenty were inward dislocations and twelve outward. Of the thirty-two cases twenty-eight occurred in children and four in adults.

Symptoms.—The forearm is usually slightly flexed on the arm, and the hand is in a position of slight pronation to extreme pronation. I failed to find any case reported where the hand was supinated as reported in some text-books. The one case of Pitha and two of Denucé are reported to have been in extreme pronation. There is no marked shortening of the arm. A slight shortening may be found along the inner (ulnar) side of the arm, the epitrochlea with which the ulna now articulates being placed somewhat higher than the trochlea. This relative position of the epitrochlea and the trochlea also causes a deflection of the lower end of the forearm inwards. The transverse diameter of the joint may be increased by a few lines but not more, as the inner edge of the sigmoid cavity does not project much, if any, beyond the point of the epitrochlea. Passive motion is usually resisted by the patient in consequence of the pain, but when put under the influence of an anæsthetic it is as free as in the uninjured joint. The external condyle is very prominent. The head of the radius cannot be felt in its place under the capitellum of the humerus. The olecranon fossa is found empty, and below it the head of the radius may be found articulating with the trochlea. The head of the radius can sometimes be felt anteriorly instead of on the posterior side of the joint. The olecranon is felt behind and above the epitrochlea, and the coronoid process in front of the same bony prominence. The tendon of the triceps muscle following the olecranon deviates to the ulnar side of the arm.

Diagnosis.—There is no difficulty in making the diagnosis of old cases of incomplete inward dislocation of the forearm, and this accounts for the fact that many writers who have seen only old cases, report that the diagnosis can be readily made. In recent cases and especially in children, I believe the diagnosis is by no means easy. Hahn, with his large experience, says, that the first five cases occurring in his practice were not recognized until after some time. Of the twenty cases mentioned by Sprengel, eleven cases were old dislocations when brought to Volkmann's clinic. This must be due to one of two causes: either the true nature of the injury was not discovered, or, if a proper diagnosis was made, reduction could not be accomplished. Nine of Hahn's cases were old dislocations when first seen by him. Pitha expresses the view that this dislocation is frequently overlooked. Sprengel says, in most cases of this injury the proper diagnosis is not made. In the case reported by Prewitt, the nature of the injury could not be determined while the limb was swollen, and after this swelling subsided, it was supposed that a fracture had occurred about the elbow joint. Five weeks after the accident Prewitt examined the child and made a correct diagnosis.

In children, where the bony prominences are not very marked, where the adipose tissue is usually well developed and the soft tissues permit rapid swelling, the dislocation is easily overlooked. The comparative freedom of motion with no marked shortening of the arm or other gross deformity is liable to mislead the observer. The absence of the head of the radius from its position under the capitellum of the humerus may not be noticed, as this part of the radius cannot be felt very readily when the elbow of a child is swollen. The swelling may also prevent the detection of the absence of the olecranon from its fossa, and the displaced olecranon may be mistaken for the epitrochlea.

The deviation of the lower end of the axis of the forearm inwards, so that this axis is a continuation of that of the humerus, or even diverges so far inwards, that it forms an angle with the axis of the humerus opposite to that of the normal arm, is, I think, an important diagnostic sign, when the diagnosis of fracture has been eliminated. This deviation is best seen when both arms are extended forward and the hands are supinated. The relation of the olecranon to the epitrochlea and epicondyle should also be examined very carefully. To avoid mistaking the displaced olecranon for the epitrochlea, place the finger upon the posterior surface of the ulna, at such a part where there is no swelling, and follow this surface carefully upwards until the olecranon is reached, then make flexion and extension of the forearm to see if it moves with the forearm. After being certain that the finger is on the olecranon, ascertain its relation to the epitrochlea and epicondyle, and make comparisons of this relation at the uninjured limb.

This dislocation has been diagnosed a number of times as fracture. The soft cartilagenous crepitation, which is observed sometimes in recent cases, has probably led to this error. This mistake should be carefully guarded against, as the application of a splint may cause anchylosis of the joint, when otherwise, motion would probably be fairly good and the limb quite serviceable.

Prognosis.—While it is highly probable that this luxation has been frequently mistaken for other forms of injury, yet in view of the large number of old dislocations it is fair to assume, that some of the dislocations were properly recognized, but that reduction could not be accomplished. There may be some self-satisfaction to a writer of a book on surgery to announce *ex cathedra* that "reduction is easy," but it is not instructive to the practitioner who perchance is unfortunate enough to meet with such a case. Such statements tend to prevent the physician, who has failed to reduce the dislocation from publishing his case. Pitha in his report of a case, a child 7 years old, says he was surprised at the difficulty he met with in making reduction. Denucé reports a case of Debruyn in which reduction was not accomplished without difficulty. The same author reports a case observed by Triquiet where a number of attempts were required to reduce the dislocation. Hamilton says that Malgaigne was unable to reduce the dislocation in a recent case. Wright has reported a rare case of dislocation where the ulna alone was displaced inwards, the radius remaining in its normal position. After repeated attempts he was unable to reduce the dislocation, he says:

"the fact that we were unable to reduce the dislocation after such prolonged trial was to me a matter of great surprise as well as disappointment, because the joint was exceedingly lax, and the olecranon was freely movable." Prewitt could not accomplish reduction in his case five weeks after the accident. In old cases of this dislocation reduction is rarely successfully made. Sprengel reports one reduction in a case of eight weeks standing. This is the only one of the eleven old dislocations observed in Volkmann's clinic.

After the luxation has been reduced, motion, after a short time, will usually be good. Pitha found it necessary to break up some adhesions which occurred after reduction; but this case was complicated by a fracture of the epitrochlea. Of one case reported by Denucé it is said: "power of motion never returned." When the dislocation has not been reduced there will in time be fairly good motion, and a very serviceable limb will be had, especially if passive motion is persistently practiced.

Treatment.—The method most commonly adopted to reduce an incomplete inward dislocation at the elbow, is to make traction on the forearm, the arm being counter-extended; at the same time lateral pressure is made at the joint in such a manner that the lower end of the humerus is pushed inwards, while the upper ends of the radius and ulna are pushed outwards. This method proved successful in the case of Pitha, also in the case of Triquiet reported by Denucé, and also in the cases reduced by Hahn. While traction is made the forearm should, according to Hahn, be in the position of strong extension, and according to Triquiet in extension and supination. The method described by Sprengel and which has been successful at Volkmann's clinic, is not very lucid in expression. He says: "The arm is bent (kinked) laterally in such a manner that the existing dislocation is increased, then a movement is made in the opposite direction while direct pressure is made." Stimson says, that "theoretically, outward lateral flexion combined with moderate traction and followed by direct pressure ought to effect reduction readily."

The difficulty is that the inner edge of the trochlea describes a circle with a larger radius than the circle described by the middle and smaller portion of the sigmoid cavity, furthermore, the sigmoid cavity describes more than a half-circle, thus leaving a comparatively small open space for the entrance of the trochlea. From measurements on an adult skeleton I find that in sliding the bones into their normal position there will be a distance of three-eighths of an inch between the middle portion of the sigmoid cavity and the opposing surface of the inner edge of the trochlea. This indicates that sufficient traction must be made to draw the ulna three-eighths of an inch farther from the humerus than when it is in its natural position. This space cannot be avoided except by such extreme lateral flexion as is impracticable, because of the danger of injuring other tissues around the joint.

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CLINICAL NOTES.

Read in the Section of Laryngology and Otology, at the Fortieth Annual Meeting of the American Medical Association, June, 1889.

BY J. D. ARNOLD, A.M., M.D.,

SURGEON TO THE SAN FRANCISCO POLICLINIC.

Early in May I was in receipt of a letter from Dr. Fletcher Ingals, which contained a request that I prepare a paper for this meeting of the American Medical Association. Sensible of the honor conferred in the request, I replied that my time was so taken up that I was unable to engage for anything that might require elaborate preparation, but would be glad to read the notes of a few interesting cases, if in his opinion they would answer for such an occasion. This is at once my reason and excuse for offering the following paper which is an unelaborated description taken from my case book, with only so much comment as is needful to elucidate the narrative.

Case 1. Adeno-Carcinoma of the Larynx.—Patient a man, æt. 38, occupation car-driver. About seven months ago took severe cold after unusual exposure on a rainy night. Quit work for five days, at the end of which time he felt quite well, but the voice remained somewhat hoarse. Used many patent medicines, and finally consulted a physician. Patient denied all history of syphilis, but after a series of inhalations was put upon mercurial inunction and pot. iodide. During all this time the hoarseness increased, and dyspnœa and dysphagia made their appearance. There had never been any pain in the throat, and very little cough. On October 3, 1888, I saw patient for the first time. He speaks in a toneless whisper; breathing loud and labored. Examination with the mirror disclosed the cavum of the larynx, almost filled with what appeared to be a mass of papillomata. Nothing could be seen of the structures of the larynx except the superior margin of the epiglottis. The growth projected into the pharynx and rested against its posterior wall: (it was of a grayish color and was distinctly fibrillated.) I could not detect the chink through which respiration was carried on. The man's dyspnœa made him urgent for immediate relief. Accordingly after free use of cocaine spray (10 per cent.) I removed with the Mackenzie antero-posterior forceps a piece of the growth about as large as a medium sized almond. I had to use considerable force to tear it away, and the procedure brought on an attack of suffocative cough which lasted so long that I feared an instant tracheotomy would be necessary. He came around all right, however, and expressed himself as highly gratified at the greatly increased freedom of respiration; voice remained as before. Inspection showed that the removal of the portion of the tumor had exposed to view the right artyenoid. That same day I sent the growth to Dr. Douglass Montgomery for microscopical examination. He reported that it was a simple papilloma. On October 6, 9, 14, and 27, I removed other portions of the tumor aggregating in all 146 grains in weight; and all agreeing in naked eye appearance with the piece first examined. Breathing had now become easy and noiseless, and the voice was markedly improved. On November 6, I removed a large mass which was much more dense than the former pieces; which lacked the fibrillated structure, and which was followed by considerable bleeding. This was also sent to Dr. Montgomery who reported that it was clearly an adeno-carcinoma. After this I refrained from any further endo-laryngeal operation, and advised the patient of the fact that his disease was malignant. He could not understand why the operations which had helped him so much should be discontinued and refused the tracheotomy that I proposed. Three weeks later he returned with a relative to talk the matter over. I explained that the whole larynx was involved in the growth, and set before them the operations of tracheotomy and excision, and read to them Solis-Cohen's statistics bearing on the matter. As my own choice I urged a simple tracheotomy. They came to no decision and left with the intention of seeking other council. On December 19, I was informed that the man had died from apnœa, refusing tracheotomy to the last.

Case 2. Epithelioma of the Larynx.—A man about 62 years; day laborer. Policlinic patient. Voice became affected more than a year ago. At times grew better then worse. Now complete aphonia. Breathing grew labored about four months ago; had to quit work. Breathing only slightly audible when at rest; becomes stridulous upon slight exertion. Deglutition has been painful for some weeks. Patient first seen March 25. Laryngoscope showed the following: there presented in the lumen of the trachea a nodulated tumor, which appeared about as large as an olive; it was covered with thick grayish secretion, and springs from the infra-glottic portion of the left vocal cord. The cord itself was of a deep red color, but its surface and vibrating edge was intact. The whole left half of the larynx was perfectly immovable, and seemed lifted above its normal plane, for upon phonation the right cord was pressed against the tumor some lines below the free margin of its fellow. With the exception of some slight congestion of the mucous membrane the right side of the larynx appeared normal. Careful examination of the neck discovered no enlarged glands. From the nodulated appearance of the growth, the complete fixation of the left side of the larynx and the constant dysphagia, a diagnosis of cancer was made. On the next day I removed with Schroetter's pincette two small pieces of the tumor which were examined by Dr. Douglass Montgomery, who reported that "both pieces were found to be papillomatous with an epitheliomatous base. In one piece there was evidently an attempt at 'nest formation.'" Thyrotomy was proposed and refused at first, but by April 28, the dyspnœa and dysphagia had become so unbearable that the man presented himself with the request that the operation be performed at once. On April 29, 9:30 A.M., patient was chloroformed and a tracheotomy done. The neck was very short, trachea almost entirely within thorax, lower border of the cricoid cartilage being on a level with the sternal notch —consequently the high operation had to be made. Considerable difficulty was experienced because of an enormous developement of the middle lobe of the thyroid gland. The isthmus had to be divided between ligatures and the first two rings of the trachea cut with bone scissors; they were completely ossified. A tampon-canula which had been made for the case, broke whilst being introduced, and it was replaced by an ordinary silver tube. When the thyro-cricoid ligament was exposed it was found perforated by the growth which was exceedingly dense and granular to the touch. The thyroid cartilage was split in the median line with bone forceps, and the wings separated with strong hooks; that portion of the larynx between the lower edge of the cricoid and the trachea was firmly tamponed with aseptic cotton, and the growth which was much larger than it had appeared in the mirror, cut away with curved scissors. The basis of the tumor was thoroughly curetted with a sharp spoon; touched with Paquelin cautery, and the site of the wound packed with antiseptic cotton. No ligature was put into the cartilage; it was allowed to close by its own resilliancy. The whole operation including the tracheotomy occupied about an hour. Patient rallied promptly. Seven hours after the operation, temp. 100, resp. 34. Next morning a longer tube was introduced, the tampon removed, the wings of the thyroid drawn asunder, and the whole larynx carefully examined. The wound was perfectly dry, and it was discovered that the glands under the os hyoides were infiltrated, and that the thyroid cartilage itself was at several points perforated by the growth. It was then decided to do a partial resection on the next day, if the patient's condition warranted it. Next morning temp. 102.5, resp. 40. Patient took a large quantity of bouillon and egg-nogg during the day. Deglutition was quite as good as before the operation. During the night of May 1, the tracheal tube became displaced, and before the attendant could reintroduce it, great emphysema of the neck and thorax developed. Symptoms of putrid pneumonia made their appearance on this day. Patient died May 5, 11 A.M.

Case 3. Bilateral Paralysis of the Abductors and Adductors of the Vocal Cords.—Man, æt. 53, applied at Policlinic May 15; has had cough with abundant expectoration for more than a year; was told in December last by his physician that he was consumptive and advised to go to sea. Made a sea voyage to Australia and returned to San Francisco in March with less cough, but had been losing weight all the time. Hoarseness and stridor first noticed whilst on ship board. Patient a small thin man, with remarkable emaciation of face; has decided cadaveric expression of countenance. Respiration very loud; voice a hoarse whisper, broken at every third or fourth word by a deep gasp for breath. The laryngoscope revealed the vocal cords fixed near the median line of the glottis. The fixation was absolute and neither phonation nor forced respiration altered in the slightest perceptible degree the shape of the glottis. The structures of the larynx appeared normal in color and contour. There are small cavities in both lungs; spûtum rich in bacilli. The most careful examination failed to detect any source of nerve pressure upon either side of the neck, or in the mediastinum. Patient has been advised of his danger and told that tracheotomy may become necessary at any moment.

4. Uniltatcral Paralysis of Larynx.—Man, æt. 43, appeared at Policlinic April 23, states that whilst at dinner three days ago he was seized with a fit of coughing, during which a piece of meat he had in his mouth was drawn down into his throat. The meat stuck there and for a few moments resisted all efforts to dislodge it, when, fearing that he was about to suffocate, he seized a table knife, and, using the handle as a probang, managed to push the obstacle further down his throat. Breathing at once became easy, but the voice was hoarse, and he found it difficult to swallow even a mouthful of water. Inspection of the larynx showed the left cord fixed in the cadaveric position; otherwise nothing abnormal. The man was given a glass of water and told to swallow it; after several ineffectual attempts he managed to get a portion down, but immediately after it was regurgitated through the mouth and nose. The œsophageal sound was now introduced, which discovered an obstruction just below the level of the cricoid cartilage, and an attempt to force the obstacle brought on a violent fit of coughing during which the lump of meat was expelled. It measured nearly one and one-quarter inches in its largest diameter, and was covered with thick yellow mucus. From this moment the paralysis commenced to disappear, and five days afterwards the action of the cord was almost normal. The man, however, still complains of a decided feeling of constriction at the former site of the obstruction.

TRISMUS NASCENTIUM.

Read by Title in the Section of the Diseases of Children, at the Fortieth Annual Meeting of the American Medical Association, June, 1889.

BY U. V. WILLIAMS, A.M., M.D.,
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In exploring this field we must realize that we are more in the region of conjecture than fact, more in the domain of fancy than reality. The exciting cause must of necessity be obscure in a condition that obtains in the newborn during a period of from four to six hours to as many days, and appears without warning. Life in its beginning, like its end, is very feeble, and the slightest disturbing influence may endanger the one, or hasten the other.

The various causes laid down by the authorities on tetanus in the newly born are unsatisfactory, and every one is subject to negation; most notably they are injury to the cord and pressure upon the medulla oblongata. Is it traumatic? The wound of the umbilical cord does not seem to be sufficient; probably not in one case in ten thousand births is it found to exist. All have the cord ligated, then circulation ceases, if not before; no nerves have ever been traced into, or from the cord.

In the lower animals the cord is ruthlessly torn asunder. If the disease were caused from such traumatism, its frequency would be observable in them, more than in the infant which has been treated with greater care; still in them it does not exist at all. In the birth act, the same, or like pressure is made upon every medulla, varied only by the relative diameters of the pelvis and head and the force exercised to push or, in case of forceps deliveries, to pull the head through the bony strait, and whether the delivery is tedious or quick, natural or artificial, the disease is just the same, exceptional, and when it does occur alike inexplicable.

I have notes of thirteen cases occurring in my own and my friends' practice. In each no assignable cause is maintainable. Two cases were forceps deliveries. Four of the remaining eleven were tedious, the others natural, and all at full time. In six cases one or both parents were consumptive. In four one or both parents were addicted to alcoholic excesses, and in three there was suspicion of syphilis. Now my critic might say how many hundreds of cases were alike predisposed, and no case of trismus occurred. I say also, hundreds of cords are tied and medullæ pressed and no case occurs. True, but does not the coincidence of all having a predisposition affect the possibility that the cause may be found in a defective organization intensified by the birth act, and called into prominent existence when the creature was beginning to have a separate life, in no wise dependent upon the maternal influences. Inherited resemblances do certainly exist, mental characteristics may certainly be transmitted; equally so do the tendencies to health or disease obtain by transmission from parent to child. This we accept because the fact is patent, and every day observable, but how it is done we know not, except from that axiomatic Divine fiat "that every creature and plant shall bring forth after his seed, and of like kind." We do not know why an oak does not come of a chestnut, we only know it is impossible that it should. Equally so a perfectly developed child cannot spring from a diseased parentage, and this tendency we call predisposition. In the newborn, oxygenation of the blood is very imperfect. At the beginning the lungs act but feebly, not at all before birth. The pressure of the powerfully contracting uterus does to a considerable extent impair the maternal supply of oxygen transmitted from the placenta through the cord—obtunding the nervous influence of the child *in utero*. Such a condition is possible; if accepted, its probability is beyond dispute; thus impure blood charged with carbonic products will act upon the brain of the infant, as the adult, and cause like results—trismus and convulsions. Again, the kidneys may be the cause. Interstitial nephritis may exist, and does doubtless at birth, the blood may be charged with uric products during the first hours or days of life and poisoning ensue, causing the disease to early manifest itself. In the adult state, such does occur, especially is puerperal eclampsia attributed to such condition in part. It is asserted by physicians who practiced in the South *ante bellum* that a very commonly attributed cause of trismus among the negroes, among whose young the disease was very much more frequent than among the whites, was the inhalation of green wood smoke and the pyroligneous acid and other products of combustion. In every cabin there was a rude fireplace in which green wood was used for fuel. Ventilation was poor and the rooms were overcrowded; furthermore, the disease was oftener seen in winter than in summer. The acid products of the smoke inhaled were transmitted through the blood to the sensitive brain, there its toxic influence was the exciting cause of tetanus and convulsions.

So obscure a disease, with so many factors of causation and with so little possibility of a satisfactory solution, must of necessity remain obscure. These possible causes are offered as suggestive, more than as facts needing no further demonstration, and are designed to call especial attention to the possibility that others may determine the influence of predisposition to consumption and syphilis as being the most prolific causes. A predisposition determines *what* a disease may be; but an exciting cause determines *when* it shall be. A predisposition to consumption is inherited, depreciates the chances of long life and operates at birth, as well as in advanced life; the same is true of syphilis and alcohol, and when the vital powers are so feeble as at birth, so much more will such influences disturb the functions of life. "The blood is the life," and any abnormal condition in that fluid from consumption, alcoholism or syphilis must be reflected upon the nerve centres and retard the activity of the brain, lessen nervous energy, and act idiopathically, thereby being the promoting cause of trismus. While these views may be unsupported by a formidable array of statistics or undemonstrated by autopsies, they are the result of thirty years of constant attention to the details of a busy practice, and I hope it may call the attention of thinkers to a class of cases but little understood, and to which very little attention has heretofore been paid.

THE USE OF THE GALVANIC CURRENT AS A LAXATIVE.

BY JOHN V. SHOEMAKER, A.M., M.D.,
OF PHILADELPHIA.

Brillat Savarin well remarks, among the aphorisms with which he prefaces his "Physiologie du Gout," that the discovery of a new dish contributes more to the happiness of mankind than does the discovery of a new star. The physician may add that all such discovery is in vain in the pursuit and sum of human happiness unless good digestion abides with us and constipation keeps aloof. Shakespeare might, if it had been in accordance with the properties, have truly added to his phrase, "now good digestion wait on appetite," another line, "and pleasant defecation follow both."

Old, new, excellent dishes of whichever kind, are generally vanity and vexation of spirit if the consummation of all eating be not easy, regular, and attended with a species of satisfaction approaching pleasure. It would seem at first glance as if appetite and good digestion must always imply ease of defecation, and yet, although that is generally so, physicians know that there are individuals who enjoy lifelong keenness of appetite and good digestion, and nevertheless tend to be constipated. The general rule, however, is as indicated, that excellence in these conditions is associated, that absence of coördination of even the last with the other signifies malaise and ill-health.

In considering the cases of those persons who have good appetite and digestion, and yet tend to be constipated all their lives, and those of persons who experience only occasional attacks of constipation, we may add to them in lesser degree those of every man, woman, and child of civilized life, for the consideration of the subject brings us face to face with the conclusion that that particular life it is which is chiefly responsible for lowering the activity of the defecating function. Habits of body are formed by neglect as well as by practice. No longer ago than fifty years, school-girls had to be counseled that it was no evidence of feminine delicacy to neglect the ordinances of nature in this respect. Children of both sexes, even at the present day, are not generally taught that the most important hygienic duty of the day is to void the bowels. Men and women of the lower classes have no such rule of conduct. Habits come upon them, they do not seek to acquire habits, do not even know that bodily habits can be acquired. It is only when we come to the really educated in any civilized community that we find, outside of professional medical life, any appreciation of the importance of daily and copious defecation. And, at best, among all classes in civilized countries, such is the general life relating to food and exercise and general habits of living, and such the exigencies of that life, that irregularity in attempts at defecation tends to degenerate into the confirmed habit of constipation.

The conditions of civilization, pure and simple, are not, it will be observed, wholly responsible for this state of things, nor, it will be equally clearly seen, are they innocent of the responsibility, and hence instruction must have some effect in remedying the evil. Civilization prescribes that no one can normally defecate more than once in twenty-four hours, and that at a particular moment of the twenty-four hours. Hence, as that moment may be urgent for some other direction of energy, the other direction is often taken without positive necessity, and by so much every time that this happens, is the habit of defecation with ease lessened. That the conditions of civilized life have much to answer for in leading to neglect of regular defecation is readily to be seen if one going from it to a life of mountains and woods, with plenty of mental and bodily employment, ravenous appetite, and constant opportunity for immediate relief of the bowels, will note all his change of habits. He will find that he will often have a natural passage twice in twenty-four hours, instead of the single one which civilization has at best decreed for that space of time. There may not be, and often are not, indeed generally are not, any restraining influences amid the wilds. Time and place generally are propitious. Nature asserts herself without restraint, and reverts to her ancient promptings and ways. There is not a well-bred dog living in the heart of our civilization which does not first relieve himself before he is in the right spirit for his gambols, and he, like his master, and even more than his master, suffers from constipation, because even more than his master he is, when housed, constrained to habits of retention leading to constipation.

Enough has been said to indicate that constipation is generally an acquired habit in the individual. If we chose to go back to heredity, we shall find it be always an acquired habit. It is an inherited defect of civilization. Still, even under the conditions which cannot be escaped, much may be done to ameliorate the evil. Proper teachings in early youth give opportunity for development into healthful practice in later days, unremitting in intention to return to that which, however broken up for a time, should be sedulously practised until the habit is resumed.

The habit of chronic constipation, often superinduced by early and late neglect, leads through life to the abuse of cathartics, aperients, and enemas. There was a time, which I believe has now passed, when women were largely addicted to the taking of daily enemas with the view of improving the complexion. Nothing that the enema, however, could accomplish but would have been equally well secured by a natural evacuation of the bowels. The daily use of the enema was nothing but a tacit confession that there was a serious absence in the individual of proper peristaltic movement of the intestines. The practice did not tend to restore healthy function, any more than a cathartic or an aperient tends to restore it; quite the contrary, as every physician knows. All these means are temporary with relation to benefit. Exercise, food, massage, look further—to the the relief of constipation through the establishment of habit.

There is no true basis for the comparison of cathartics and aperients with enemas, as producing passage of the bowels. There is, however, a strong similarity between ordinary massage and treatment by the faradaic current; for whatever additionally the faradaic current may effect, it certainly executes massage of the most searching kind, and we find it capable, in all probability on this account chiefly, of stimulating the bowels, through percutaneous administration, to healthy peristaltic action. Here we have electro-massage as against ordinary massage, and as being both massage, even if one includes other effects besides those derived from massage, they are comparable. But what shall we say of the effect of the continuous galvanic current on the bowels? That it has such an effect, that that effect is not owing *in any degree to property as massage, I shall* not pause to discuss, for the statement that it has no property as massage no one will dispute.

Through treatment of prostatitis, prostatorrhœa, etc., I have been led, in conjunction with a coadjutor in the matter, to the discovery that the continuous galvanic current has, if administered as I shall describe, an immediate effect in loosening the bowels, which discovery may prove of therapeutic value in cases where treatment by cathartics, aperients, massage, or faradaic electro-massage are contraindicated, or if not contraindicated, where they would not be so desirable as treatment by the continuous galvanic current.

In describing the mode of administering the constant current for loosening the bowels, I cannot do so well as to mention how the poles of the battery are placed in my present mode of treating enlarged prostate, etc., for it was through this, which I have now adopted in preference to the mode of adjustment which I had in common with other practitioners employed, that the effect of the continuous current upon the bowels was discovered. The intra-rectal reophore, representing the negative pole, should be introduced to the usual distance in the rectum, and the patient should be allowed, with the sponge covered reophore, representing the positive pole, to adjust it from the front on the perineum. Thus the prostate is directly attacked by the continuous current, which passes through and around it, whereas when the indifferent pole is placed, as is usual, on the thigh, it causes the current to be deflected from the true direction. Moreover, no physician can graduate a current to suit at all moments the sensitive mucous membrane of the rectum. The patient can, on the contrary, graduate it to the greatest nicety by means of more or less pressure on the reophore, or by the temporary removal of the reophore, making the current as nearly constant as anything that can be controlled by man. *This* mode of treating enlarged prostate, etc., is so simple and efficacious that I mention incidentally my intention to have constructed a simple apparatus to enable persons suffering from affections of the prostate, who are so situated as to be unable to receive professional treatment, to treat themselves satisfactorily.

This, then, the manipulation that I employ for treatment of prostatitis, etc., is the manipulation best adapted to treatment for loosening the bowels. The strength of the current should be about that of one milliampére, rather less than more, so that the patient will feel at first as if no current at all is passing. In the course of fifteen or twenty seconds, however, he will begin to feel it gradually rising from the cold of the olive-shaped rectal electrode to the warmth of the same object, gradually heated to a point of painless tolerance. The slowness of the increase, as well as its steadiness, seems to be a factor in the success of the result sought. Shock, or even abrupt transitions in the strength of the current, seem to be prejudicial to success. The perfect confidence of the patient, derived from the certainty that the process will be gradual, and cannot be startling at any point, conduces to the result. Every one knows how important undisturbed repose is to the successful evacuation of torpid bowels. In about a minute after the application of the current, the sensation of desire to go to stool becomes manifest, and at the end of two minutes, the average patient can generally be affected to the degree requisite to secure a pleasant passage. I think that this process can, by repetition, be made to have constitutional effects in the alleviation or removal of chronic constipation. Of this, however, I affirm nothing, but merely throw out the suggestion without assigning my reasons for thinking that the effect may be made more or less permanent.

Two phenomena attend the administration of the continuous current in the manner which I have described. They seem to point to two at least of the efficient causes of the chief effect observed: 1, Depending upon the position of the fæces, an unmistakable trickling in the rectum is perceived. 2, If the pole at the perineum be quickly removed, the sphincter of the anus forcibly contracts. The conclusion, therefore, is inevitable, that, as to the first, a general discharge from the mucous membrane is stimulated, and as to the second, that the whole of the rectum and the lower portion of the bowels is dilated, both superinduced conditions working to the desired result.

Although a divergence from the main purpose of this description, I should not omit incidentally to impress here the strongest evidence which has yet been adduced as to the differential action of the two poles in mucous membrane passages. It is becoming well known that in the urethra the negative pole dilates the passage, whereas the positive pole contracts it, *and hence, that the* negative pole is the proper one *for relief of strict-*

ure of the urethra. The rectal experiments of which I have spoken repeat this evidence with reference to the rectum, and by means of a superlative test. I have said that when the intrarectal negative electrode is in position in the rectum, and the moist sponge-covered positive electrode is in position on the perineum, and the current is flowing, that if the latter reophore be suddenly withdrawn, the sphincter of the anus forcibly contracts. The rectum had therefore been dilated by the passage of the current, to allow of the sphincter thus forcibly contracting. Now reverse the poles, so that the electrode in the rectum shall become the positive pole, and that on the perineum shall become the negative pole, and the sphincter of the anus contracts when the negative pole on the perineum is put into position, but remains perfectly quiescent when it is *withdrawn;* just the reverse of what is observable in the other situation of the poles, and showing that the positive pole contracts. Scientifically summarized, the effects referred to are that anode closure dilates, and cathode closure contracts, a mucous membrane channel.

If it be said that, as cathode closure produces contraction of the sphincter, that is, that contraction of the sphincter takes place without previous passage of a current, and consequently without any previous dilatation of the rectum, and if one be asked what evidence there can, therefore, be that, upon anode opening, which is also followed by sphincter contraction, there had been previous dilatation of the rectum, the presentation of the difference between the cases is almost the answer to the objection. In the first case, the current not having been flowing, whatever contraction of the sphincter through cathode closure takes place, must be to below the normal size of the sphincter and rectum. As there has been no action, there can be no reaction. On the contrary, in the second case, as the current has been, and is flowing, and the contraction through anode opening is produced by breaking the current, it is obvious that whatever change takes place must be *reaction*, and as the sphincter contracts, it must be apparent that the preceding *action* of the current had resulted *in dilatation*. The mucous discharge is in strict conformity with this action, inasmuch as parts secreting do not show increase of functional activity by contraction, but by expansion.

It is easy to be understood, then, that if the rectum is expanded by the passage of the continuous current through the presence there of the negative pole, and if at the same time the inner part of the lower bowel and the rectum is laved by a rapidly secreted mucous discharge, that, independent of the dynamic effect of the current, it should, when so applied, produce discharge from the bowels, and the fact that it so operates has been distinctly proved. That, as I have said, the effects may tend to be permanent, no one who has tested the efficacy of electrical treatment in many directions will be indisposed to hope. Meanwhile, relying solely upon what has been thoroughly established as a fact, I shall patiently await the result of experience to show what are the limitations of the efficacy of the treatment herein described.

1519 Walnut St.

MEDICAL PROGRESS.

Lead Poisoning.—Binet and Prévost have communicated to the Medical Society of Geneva the results of some very interesting researches on the subject of lead poisoning. Their conclusions are these: Animals poisoned by the daily ingestion of white lead presented the following symptoms: A progressive emaciation; anæmia from diminution and alteration of the blood globules, without leucocytosis; albuminuria, which, however, has been neither abundant nor constant; nervous phenomena—paralysis, aphonia, loss of reflexes, anæsthesia, rarely convulsions; the paralyses are curable when the lead is discontinued. The anatomical features are these: A constant alteration of the kidneys, which become grayish, contracted, often cystic; nephritis and a special form of calcareous granulation, according with the type described by Charcot and Gombaut; fatty degeneration of the liver; frequently pericarditis and sometimes granulo-fatty degeneration of the myocardium; lesions of the peripheral nerves of the segmentary type; the medullary roots are rarely affected; regeneration of the diseased nerves has often been demonstrated.

The clinical examinations showed that lead accumulates chiefly in the kidneys, the quantity being greater as the intoxication is more prolonged. It is abundantly found in the bones; it seems to be deposited in the bony framework in the form of the phosphate. The liver generally contains but little lead, at least in slow chronic intoxication. The quantity may be large immediately after the ingestion of a large amount, but it diminishes rapidly and does not accumulate as in the kidneys. The muscles, spleen, nerve centres, eyes, lungs, heart, pancreas, genital organs and blood have also been examined for lead, but in all these it is found only in small quantities or is altogether absent. The embryo and the new-born animal from mothers with chronic intoxication rarely present traces of lead.

A large ovarian cyst in a rat contained a quantity of lead, especially in its walls.

Elimination: The urine carries away but little lead, hence the large accumulation in the kidneys; the quantity increases when the urine is albuminous.

The elimination in the bile is more important, hence the small quantity of lead found in the liver.

The elimination in the saliva, excited by the administration of pilocarpin, is very feeble.

The slow elimination of lead and the sparing solubility of most of its salts explain the long retention of the metal in the body.

Two animals, after a prolonged intoxication from lead, were subjected to the influence of the *iodide of potassium*, but in spite of this treatment *upon autopsy* a large amount of lead was found in the kidneys. The same result was obtained with the ammoniacal salts.

Strophanthus in Pædriatics.—Dr. Moncorvo, of Rio Janeiro, has found strophanthus a very useful remedy in the treatment of diseases of children. As the result of a number of observations in its use he formulates the following conclusions:

1. Strophanthus as a cardiac and diuretic remedy in the diseases of childhood is a valuable acquisition, both on account of its promptness and energy of action and its complete harmlessness in the case of children even of a very tender age.
2. In cases of mitral or tricuspid lesions, with diminished secretion of urine, strophanthus administered in the form of the alcoholic tincture (Fraser's) promotes the reëstablishment of the heart's tonicity, regulates the rythm of its beats, and increases the amplitude and strength of the pulse. Almost without exception it acts as a powerful diuretic.
3. In the cases of pulmonary and broncho-pulmonary affections of childhood, complicated so often with cardiac insufficiency, strophanthus likewise renders excellent service as a cardiac tonic. This has been demonstrated in cases of asthma in children of from 9 to 11 years of age.
4. The therapeutical action of strophanthus does not appear to be transitory, for in a certain number of the little patients the happy results of its employment last long after the cessation of its administration.
5. No marked influence has been observed upon the central nervous system or the temperature.—*L' Union Méd.*

Some Applications of Salicylate of Sodium.—Dr. Stiller, of Budapest, reports on the uses of salicylate of sodium: Following the example of the English physicians in employing this remedy in diseases of the liver, he has found it to be the most energetic of chologogues. He has used it for five years in cases of gall-stone, and has satisfied himself that he is acquainted with no remedy that operates in a more certain and rapid manner. He prescribes it in four daily doses of half a gram each, given in half a glass of soda water or some effervescing draught; he generally adds to such a dose 0.01 grm. of extract of belladonna; warm flax-seed poultices should be frequently applied over the liver; strict diet should be observed, mostly of a liquid character; for drinking purposes an effervescing draught free from iron, is sufficient. Injections of morphine soon become unnecessary, and the patient should make use of the Carlsbad or Vichy cure. The writer has also found the salicylate of sodium an excellent remedy in exudative pleurisy; the fever abates after its use, and rapid absorption of the serous exudate occurs. Stiller likewise finds the salicylate of sodium possesses value as a means of differential diagnosis in cases where there is a question of serous or purulent exudate—prompt action occurring in cases where there is a serous exudate, the diagnosis and prognosis become easy. The dose of this remedy is 3–4 grm. per diem, which amount soon effects a diuretic action. Salicylate of sodium is also an excellent remedy in sciatica and recent cases of peripheral paralysis of the facialis.—*Ther. Monatshefte.*

The Contagiousness of La Grippe.—Dr. Proust has recently reported to the *Academie de Medécine* some interesting facts relative to the contagiousness of *la grippe*. A ship set sail from St. Germain on Dec. 2, and at Santander took on board a passenger who had come from Madrid. The day after his embarkation he was seized with *la grippe*, although the sanitary condition of the packet had been, up to this time, excellent. Four days later the ship's surgeon was attacked by the disease, and two days later one of the crew was seized. Then the disease became general; 154 passengers out of 436 were attacked, besides 47 sailors, making a total of 201 patients. These facts seem to be sufficient to establish the contagiousness of the disease, the case being proved not simply by the complications but by the disease itself.—*La Sem. Méd.*

Etiology of Malaria—Dr. Paltauf, of Vienna, in a recent paper on "The Plasmodium of Malaria," confirms the views of Marchiafava and Celli. Paltauf has examined ten cases of malaria; he describes the morphological appearance of the plasmodium malariæ before, during and after the attacks, and regards it as the cause of the disease. Dr. Kahler, of Vienna, in four recent cases and one old one, also found the plasmodium. All these patients recovered under the use of quinine, although authors have given an unfavorable prognosis on account of the presence of plasmodium in such cases.

Arsenic in the Bones.—The presence of arsenic in the bones has long been asserted, but it has recently been clearly demonstrated by the investigations of Brouardel and Pouchet. It is therefore important to look for this poison in the osseous system in medico-legal cases, especially when the poisoning is not of the most acute character.

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SATURDAY, APRIL 26, 1890.

PAUPER INSANE IN POOR-HOUSES.

After a struggle of three years, the New York Legislature has just passed a law requiring that the pauper insane shall be provided for and maintained solely by the State instead of, as heretofore, by the counties. Exception is made of the counties of New York, Kings, and Monroe, that maintain well equipped insane asylums. The local superintendents of the poor have vigorously opposed this transfer, and successfully until this time. But the necessity of this action has been strenuously urged by some physicians and a number of unselfish ladies; and if there was any doubt regarding their good judgment it was dissipated on the publication of the first annual report of the State Commission in Lunacy for 1889.

This document is one of the most remarkable reports that has been published for a long time, and one instantly asks if the abuses it portrays are true of a State possessing the wealth and intelligence of New York, what must be the condition of affairs in States that are less wealthy. We are informed that the insane departments of alms-houses contain from twenty-five in the smallest to four hundred in the largest, and that 1,848 patients are confined in these institutions. In only two of the institutions were resident physicians employed, and in only four or five others were physicians required to make daily visits. Usually the physician visited the institution from one to three times a week, and he was always officially subordinate to the keeper of the institution. Their compensation averaged less than $325 per annum, a renumeration that was certainly inadequate for the character of the services required, and they were hampered by insufficient medical stores. Case records were not kept, and the medicines were often intrusted to other patients for administration. Mechanical restraint was applied at the discretion of unskilled attendants, the diet was often inadequate, the bedding was often foul, the water supply insufficient —hot water being obtained by heating in kettles, and four or five patients sometimes being bathed in the same water. Magazines or games for the diversions of the patients were not furnished, the day attendants were usually unskilled, and there was insufficient night attendance with meagre, if any, provision against fire. A few pages that are allotted to a description of some special abuses noted by the commission, describe a state of affairs that might be supposed to be contemporary with PINEL if our experience had not convinced us, that in many of our States these abuses are paralleled if not exceeded.

It would seem as if a reform work might be intrusted by each State medical association to a committee, that each county or municipal institution containing pauper insane patients should be thoroughly inspected, and a report made of the number of cases, the capacity of the building, the professional attendance, the nursing, food, bedding and clothing, case records, restraint if any, and general features of the administration. And where the latter seemed particularly reprehensible, due publicity of the obnoxious features would undoubtedly awaken a lethargic public sentiment and the abuses would be remedied.

A PHYSICIAN'S PERSONAL HOBBIES AND PRESCRIPTIONS.

Every physician who has been actively engaged in his profession finds that there is a wide range of remedies that are valuable only in the secondary list, and that after all his main reliance in routine work is upon a few well known and long tried remedies. OLIVER W. HOLMES says: "Give me opium, wine and milk and I will cure all diseases to which flesh is heir." Now while this is hyperbolic, it appeals to the experience of all as a terse statement of fact. Just as a mechanic will fashion a wide variety of articles with a few simple tools so the physician with a few good remedies mastered in their every detail, will meet the varying exigencies of his daily round, successfully. But this very knowledge has its dangers. It is characteristic of mental action that it repeats itself the more easily with each repetition —and we are but human. It is less labor to use the old formula again than to devise new. One man runs largely to bismuth, another to iron, another to hypophosphites. Again what is still worse routine is to treat all maladies in one line, to see nothing but disinfection for instance, or to see but one organ of the body at fault, and make the womb, or ovary, or kidney or whatnot, depending upon the individual's specialty, the offender.

It is easy to criticise and very hard to put oneself in the attitude of the penitent and say "Is it I?" and while we each may withhold our confession from the rest of the profession it is well for us to act the censor upon ourselves. Remedies are not to be ignored or discarded because they are new—nor should the new supplant the old—until by very careful observation and estimate of their efficiency, their superior merit is demonstrated.

The present temptation of the physician prone to a life of elegant leisure as well as to those who are over burdened with work, is to ignore personal responsibility, accept the formula and the dose as suggested by the enterprising manufacturer, and become in fact what they may be loth to admit—the distributors of medical wares—simply responsible for a certain vague idea that for the cure of a given disease a certain remedy should be prescribed. There are helps to the practice of medicine which may easily prove hindrances, and a habit of indolence or indifference in the matter of prescribing is not simply an imposition—it is a crime.

MEDICINE IN THE CONGO FREE STATE.

MR. HERBERT WARD, the African explorer and former officer under Stanley, has illustrated the status of medical knowledge in the Congo country by a bit of his own personal experience in the central parts of the Dark Continent. After premising that the female members of the population are so ground down and debased as to be devoid of the emotional nature, sentiment, sympathy and nearly all parental affection, he states that he met with one exception, and only one. It was in the case of a sick child whose mother obtained Mr. Ward's assistance, and received from him a good, "civilized dose of medicine," as he expresses it. The little one recovered, and at midnight shortly afterwards the traveler was awakened by a person speaking in his tent. Something was said in a soft, low tone, which Mr. Ward understood to mean that the mother in question—for it was she—wanted to thank him for his kindness to her child, and she said that she had brought him, as a present, the only thing she had in the world that possessed any value to him. It was an egg which she brought, and she had done so in this stealthy manner, at the dead of night, because if the other women of her tribe knew of her visit she would be beaten terribly. She wished Mr. Ward to have the egg cooked for his breakfast in the morning. Her wish was granted so far as the cooking was concerned, but Mr. Ward concluded not to eat it, for he discovered that it was not strictly physiological in type. Mr. Ward has described the medicine man of the tribe of the Bacongo as "a fierce-looking man with his hair all askew and a fetich in his hand." He has the power of life and death among the benighted people of his tribe, and on fête days administers poisons to the women who have been designated for sacrifice. His victims submit meekly to their medicine man's deadly dose, and will not even accept rescue, in some instances. On one occasion Mr. Ward was informed regarding the approach of a fête and sacrifice not far distant from his camp, in one of those tribes. He was told that a beautiful young woman had been chosen for the poison-cup, and he determined to push on to that village and prevent the murder. He did so, the young woman was captured by him, despite her own resistance and the opposition of all the natives. The woman was taken to Mr. Ward's camp, fed and clothed, but she took the first occasion to escape and to return to the tender mercies of the medicine man. Mr. Ward learned afterward that the ordeal was carried out in the presence of her admiring relatives and tribe, that she took the poison and died in the full courage of her convictions. The stern medicine man, likewise, was firm and did not spare his victim by giving a placebo. A more civilized practitioner would have weakened, probably, in his admiration for the victim's zeal, and spared the life so freely offered.

THE RUSH MONUMENT.

The able address of DR. WILLIAM PEPPER commemorating the life and services of DR. BENJAMIN RUSH, which was delivered at the last annual meeting at Newport, will be found in the present number of THE JOURNAL. We commend its careful perusal to all our readers. The Report of DR. A. L. GIHON, Chairman of the Special Committee, is also presented at this time, and those who were present at its delivery will be sure to read it with special interest.

The time is opportune for the re-presentation of this subject. The purposes of the Association are fully set forth in these papers, and it is sincerely to be hoped that they will so impress the minds of its members as to lead to prompt and generous action on their part, when assembled at Nashville. Among all the monumental tributes that shall express gratitude for signal achievements there should be *three* at least, commemorative of medical men: one for Dr. Rush, another for the brave WARREN, who fell at Bunker Hill, and the third for DR. EPHRAIM MCDOWELL, the father of gynecology. They must and will be built. Let the honor of the building be accorded to ourselves and not to our children.

EDITORIAL NOTES.

HOME.

THE NASHVILLE MEETING.—It is evident that the Committee of Arrangements for the Annual Meeting on May 20, has its work well in hand. The Section Committees have secured a full supply of valuable papers, which, as they are submitted, will become the property of the Association, and are to appear in due time in its journal. The gathering of Medical Editors will doubtless bring together a full representation of our best medical writers, and the Convention of Professors will give an added interest to the annual assemblage. The Nashville Meeting should be, and doubtless will be, one of the most interesting in the history of the Association.

THE ILLINOIS STATE MEDICAL SOCIETY.—The fortieth annual meeting of this Society will be held in Chicago, beginning May 6, 1890, and will continue its sessions for three days. It is a vigorous organization, and has an admirable record in the past. The coming meeting promises to be one of its *best*. There will doubtless be a large attendance. Every county in the State should be well represented.

DR. HENRY H. SMITH, of Philadelphia, died April 11, aged 74 years. He was the well-known emeritus Professor of Surgery at the University of Pennsylvania, and formerly the Surgeon-General of his State. His services to his State during the late war were most valuable, not only as an organizer of the hospital service, but in participating in the operative labors following the battles of Antietam, Winchester, Fair Oaks, West Point and Cold Harbor. His services as a teacher of surgery covered a period of thirty years. He was called to the chair of surgery in 1855, in the University, and held that position over fifteen years. His hospital appointments were numerous, and his contributions to medical literature, surgical papers, and hand-books on operative surgery were esteemed among the best of their time.

DR. J. S. DORSETT, Medical Superintendent of the Texas State Hospital for the Insane, at Austin, was violently assaulted by a patient, March 24, and was seriously injured by being struck from behind with an iron bar.

Two gigantic skeletons of mound builders have been unearthed near Hamilton, Ohio, with a well preserved specimen of pottery of the mound builder's period. The jaw bones are extraordinarily large and possess all their teeth in an excellent state of preservation.

THE cause of medical education in New York City has received a somewhat unexpected donation. The Post-Graduate Hospital and College will receive the sum of $10,000 from the estate of the late D. B. St. John, formerly State Senator from Newburgh.

THE MEDICAL EDITORS' ASSOCIATION.—The annual meeting of medical editors, as already noted, will be held in the lecture rooms of the Dental Department of the Vanderbilt University at Nashville, on the evening of May 19. Dr. I. N. Love of St. Louis, editor of the *Medical Mirror*, will preside. The medical press of this country should, and doubtless will be largely represented and a most enjoyable meeting is anticipated.

THE SPECIAL COURSE IN ABDOMINAL AND PELVIC SURGERY.—The recent special course in abdominal and pelvic surgery, by Drs. Senn, Fenger, Parkes and Belfield, at the Chicago Policlinic, seems to have met with general commendation among the physicians—one hundred and twenty-seven in number—who attended. At a meeting of the class held at the completion of the course, the following resolutions, presented by Dr. E. P. Cook, of Mendota, ex-President of the Illinois State Medical Society, were unanimously adopted:

> WHEREAS, We desire to give expression to our appreciation of the successful and satisfactory manner in which the course has been conducted to its conclusion, be it therefore
>
> *Resolved*, That we would hereby convey to the faculty and officers of the Chicago Policlinic our thanks and appreciation of the discernment and skill that have conceived and executed a course demonstrative of the recent marked advances in the surgical treatment of abdominal and pelvic injuries and diseases.
>
> *Resolved*, further, That we are under especial obligations to the several distinguished surgeons who, by their lectures and demonstrations, have made this, as we believe, the best course in advanced surgery ever delivered in this country.
>
> *Resolved*, finally, That it is our deliberate conviction that we have here in Chicago and in the West every requisite in skill and knowledge among teachers, and in abundance of clinical material, to thoroughly qualify all who would engage in the profession of medicine and surgery.

We are informed by the Secretary of the Policlinic that the course will be repeated by the same lecturers, on a more elaborate and complete plan, next winter.

DR. E. C. SEGUIN, formerly of New York City and now of Providence, R. I., visited the University of Toronto on March 11 and 12, at the invitation of the medical society of that institution, in order to inaugurate an annual lecture course pertaining to the higher subjects of medical interest. He delivered three discourses on the treatment and management of certain neuroses.

MEDICAL LEGISLATION.—The anatomical Bill for the District of Columbia passed the United States Senate on April 12. We anticipate that it will soon become a law, and that the study of anatomy will thus be legalized at the National Capital.

THE ST. BARTHOLOMEW'S HOSPITAL and Dispensary, at New York, has just issued its first annual report. It is a down-town institution especially devoted to cutaneous and genito-urinary diseases, whether specific or otherwise.

DR. WM. T. BELFIELD, 612 Opera House Building, Chicago, Ill., U. S. A., respectfully solicits information concerning unpublished cases of operations upon the prostate, especially for the relief of the so-called hypertrophy of the organ.

MARION SIMS MEDICAL COLLEGE.—A new medical college, bearing the name of one of the most illustrious of medical men, is being developed in St. Louis. The organization is so far perfected that the first session will open in the autumn of the present year. A strong movement has been organized for the endowment of a hospital in connection with the new enterprise, and the prominence given to clinical teaching will be a special feature in its course of instruction.

THE death of Surgeon Rufus H. McCarty, of the "Yantic," took place April 13, by pneumonia. He had been in the Naval service since June, 1875, having been appointed from Michigan.

THE MEDICAL COLLEGE CONFERENCE.—We sincerely hope for best results in connection with the meeting of College Professors at Nashville in connection with the annual meeting of the American Medical Association. *Possibly while Section* work is being done during the several afternoons, those especially interested in the securing of more uniform standards of requirement for medical graduation can be convened for the furtherance of this important work, and by mutual conference, inaugurate a plan which shall secure the desired results.

CHICAGO POLICLINIC.—Dr. N. Senn and Dr. Chr. Fenger have been elected regular Professors of Surgery in this institution. In addition to clinical work, they will present a special course in abdominal surgery twice yearly.

FOREIGN.

SIR MANOCHJEE PETIT, a wealthy Parsee merchant, of Bombay, has donated a lac of rupees toward the founding of a leper-hospital at that city. This is about forty-six thousand dollars. It is estimated that this generous man has dispensed in charities more than a million of dollars.

THE Fifty-eighth Annual Meeting of the British Medical Association will be held at Birmingham on Tuesday, Wednesday, Thursday and Friday, July 29, 30 and 31, and Aug. 1, 1890.

TOPICS OF THE WEEK.

FOOD IN ACUTE DISEASE.

We all remember the remarkable words of the late Dr. Graves, of Dublin: "Lest when I am gone you may be at a loss for an epitaph for me, let me give you one in three words, 'He fed-fevers.'" Since the time when these pregnant words were uttered there has been little inclination displayed by physicians in this country to go back to the starving methods of some of Grave's distinguished predecessors or contemporaries. Yet it can hardly be doubted that the conclusion arrived at by some of the older physicians, that the free administration of food in fever occasionally intensified the febrile process, rested on some basis of practical observation; and we do not, in the present day, altogether lack occasions of observing that the indiscreet administration of food in acute diseases, food unsuitable either in quality or quantity, is distinctly injurious.

No one can be more willing than I am to recognize the necessity and importance of administering a sufficiency of food to febrile patients, especially with the object of lessening or compensating for that tendency to destruction of tissue, which is one of the most serious consequences of fever; but I am at the same time convinced that, especially in large public institutions where patients are nursed *en bloc,* the free administration of food and alcoholic stimulants is far too much a matter of routine, and sometimes partakes more of predetermination than discrimination. I have seen a nurse, a competent but very firm lady nurse, stand with teeth set and lower jaw advanced, and every firm outline of her muscular frame breathing forth unyielding determination, over a fever patient, and forcibly thrusting down his throat, an easy conqueror in this unequal struggle, the detested hourly "feed" of black beef-tea, mixed with cheap port wine (for what public institution ever uses anything but cheap port?). The poor fevered lips and parched tongue are craving all the time for "a cup of cold water," which is denied them, either because the patient is not sufficiently conscious of his wants to ask for it, or because "the doctor has not ordered it."

I would plead, then, for more discrimination and less of routine in the feeding of fever patients, and I would suggest for consideration the fact that food undigested only serves to intensify the febrile process and adds to the distress of the patient, and that in administering condensed solutions of nitrogenous extractives we may incur the danger of adding to the already large accumulation of nitrogenous waste in the blood. I would also put this question to the medical officers of hospitals: Are you satisfied that those cheap and common qualities of wines and spirits, almost universally used in such institutions, a single glass of which many of us here in sound health would wisely fear to take, are you satisfied that they do not also injuriously affect the fever patient, who, moreover, may have been entirely unhabituated before the attack to the use of such beverages?

We feed fevers and we are undoubtedly right in so doing. Bauer and Künstle appear to have established, by careful observations on the diet of typhoid fever patients, the fact that a due "supply of albuminous food to a fever patient" effects a saving of albumen in the body, "for though the excretion of nitrogen is increased, the loss of the same element from the system is reduced.' But do we not sometimes overfeed fevers, and use less discrimination than is desirable in the kinds of food we administer?

It has appeared to me that we may formulate two chief rules which should guide us in the feeding of cases of acute disease. 1. Endeavor to utilize food to the greatest extent that is safe and possible for the purpose of checking the waste of tissue which is associated with the febrile process. 2. Be careful to administer no food that cannot be readily absorbed and assimilated. Do not overlook the fact that the functions of the digestive organs are gravely impaired during fever, and therefore, if we give food which the patient is unable to assimilate, this undigested food will decompose in the stomach and intestines, and cause much local irritation and augment the pyrexial movement.

I have been accustomed to teach, and I submit that teaching to your criticism, that in acute and short typical and febrile attacks, such, for instance, as one of acute croupous pneumonia of average severity and running an average course, we should not manifest any anxiety as to the taking of much food, unless in the aged and feeble, for by forcing the consumption of a considerable quantity of food in such cases, in the absence of all appetite, and with obvious febrile derangement of the digestive organs, we do more harm than good.

There is a general consent amongst all authorities that, owing to the interruption of normal gastric digestion in fever, all food should be given in the fluid form; that is, in a form that can be readily and immediately absorbed, that it should be given in small quantities and at short intervals. The two kinds of fluid food most commonly used in cases of acute disease are, first, milk, and secondly beef-tea, and under the latter denomination I would be asked to be allowed to include all fluid meat extracts, broths, soups, meat juices, etc. The consideration of both these forms of food will probably yield some suitable topics for discussion.

The very great convenience of milk as a food has, I think, acted in a certain sense as a snare, for there is a tendency, especially with nurses, to think no evil of that which is so handy, requires no preparation, and gives so little trouble. But the great drawback in the use of milk in acute diseases is that, although a fluid food out of the body, it becomes a solid food in the stomach or intestine. No doubt it is an excellent food in all cases in which it is well tolerated and quickly digested and absorbed, but there are many cases in which it is not so, and when these happen to be cases of typhoid fever very serious injury may be done the patient if this peculiarity is not observed. I have seen several cases of typhoid in which the administration of milk has not appeared to cause any gastric disturbances, but yet has produced great intestinal irritation, and the motions have been largely composed of firm milk curd. One of the reasons why milk so frequently disagrees with patients is that it is given in too concentrated a form and in too great quantity.

Sir Henry Thompson has called attention to the absurd custom, now so prevalent, of using milk as if it were a simple beverage, and to drink it like water, with quantities of solid meat and other food. Why should we hesitate to dilute the milk we give to fever patients? They require water, pure water, in much larger quantity than they usually get, and yet we hesitate to mix water with the milk we give them. Their digestive powers are excessively feeble, and yet we will give them concentrated foods! When we wish to rely on milk as a food in acute disease we should give it in small quantities at a time at short intervals, mixed with water or, better, with an alkaline water such as Vichy or Apollinaris. I am accustomed in hospital practice to prescribe powders, each containing 20 grs. of bicarbonate of soda and 20 grs. of common salt, and to direct that one such powder should be added to every pint of milk, and this to be diluted when administered with an equal quantity of water. Two ozs. of milk and 2 ozs. of an alkaline water every hour (and a fever patient requires a drink every hour) will give the patient 2½ pints of milk a day. I am, of course, thinking of cases in which the digestion of milk is difficult.

Greater use ought also to be made of the whey in those cases in which milk is not digested readily. I have often used it in private practice and in hospital with great advantage. It can be prepared in a pleasant form by boiling a pint of milk with two or three teaspoonfuls of lemon juice, and a few fragments of lemon peel for the sake of flavor; if the curd be well broken up, then strained through muslin, and all the fluid pressed well out of the curd, much of the cream and some of the finely-coagulated casein will pass into the whey, which will thus become a fairly nutritive fluid. If necessary, it can be made more nutritious by the addition of meat juice. Or if an egg be whipped up with twice as much boiling water, added slowly and then strained, a fluid will be obtained holding in suspension a considerable quantity of albumen coagulated in fine particles, and this may be added to whey (or to beef tea), thus supplying the defective albuminate.

I must not dwell longer, however, on milk. I merely make these suggestions with the view of eliciting further observations. I will ask you at the same time to consider the use of "butter-milk" as an invalid food, not so largely used in this country as in Germany, but calculated, I believe, to be of service in many cases of gastric difficulty. It is highly acid from the presence of lactic acid, and it contains the casein of milk in a very finely divided form. I have known dyspeptic patients to live upon it in comfort for considerable periods at a time, taking only a little thin water biscuit besides.

Another form of fluid food very extensively used in cases of acute disease is "beef tea." This term is usually applied to very strong extracts of beef, and this fluid is generally estimated in exact proportion to its concentration; why, I have never been quite able to understand. As I have already said, a patient with pyrexia requires and should be given much water; why not give him some of that water with his beef extract? The intense dislike of beef tea which many patients manifest is especially directed to this very concentrated form. It is mere slavery to routine—mere want of resource—that has perpetuated the invalid's sad restriction to milk and beef tea. Conceive the dread monotony of a six or seven weeks' limitation to these two articles of diet. Now there are many forms of meat infusion or meat extracts that can be rendered very palatable by suitable care in preparation, infinitely better adapted to serve as foods in pyrexial cases than strong beef tea. Well-made mutton, veal and chicken broths, to which some well-strained oatmeal or barley gruel can be occasionally added, make excellent invalid foods. They contain in a dilute form the same constituents, and, with the additions I have named, even more nutritive alimentary principles than beef tea. But clear soups—*consommes*—are exceedingly agreeable, readily absorbable and stimulating foods, and they usually contain some vegetable juices and salts which greatly add to their food value.—I. Burney Yeo, *Brit. Med. Jour.—Canada Lancet.*

ELECTRICAL INJURIES.

In an interesting article Dana, in the New York *Medical Record*, November 2, 1889, writes of the dangers of strong electrical currents. The following is a summary of some of the points which he presents:

The extraordinary increase now going on in the practical application of electricity, nearly $100,000,000 being already invested in lights and power alone.

A practically new class of injuries met in connection with the new industries. Such injuries have been heretofore produced by lightning, and they have been consequently rare.

These injuries are not numerous or serious as compared with those met with in connection with other great industries. There have been in ten years only about 100 deaths in the whole world from artificial electric currents. The railroad kills annually over 2,500 people (2,541 in 1880), and injures about 6,000 in the United States alone.

Electrical currents produce three kinds of severe accidents. They kill at once; or they burn severely; or, by the mental and physical shock, they cause traumatic neurosis. Usually, if they burn severely, they do not kill. Hence practically, the rule is, if contact with electrical wires does not kill, the victim gets only a burn or a harmless shock. In very rare cases the current seems to affect the nerves or nerve centres, causing paralysis.

The minimum current safe to receive is not definitely known. Probably 800 to 1,000 volts of continuous current, and a third less of alternating current, would not be fatal. The wires for lighting and for power carry the more dangerous currents.—*Boston Medical and Surgical Journal.*

MONUMENT TO DR. PHILIPPE RICORD.

A committee has just been organized, under the presidency of Prof. A. Fournier, with the view of raising a monument to the memory of the late Dr. Philippe Ricord. Dr. Horteloup has been appointed secretary of the committee, to whom all subscriptions should be addressed, at 76 Rue de la Victoire, Paris.

PRACTICAL NOTES.

THE ANTISEPSIS OF THE RENAL PASSAGES BY THE INTERNAL USE OF SALOL.

In the intestinal tube, says the *Therapeutic Gazette*, February 15, 1890, as a consequence of the action of the pancreatic juice, salol splits up into carbolic and salicylic acids, which are then eliminated by the kidneys, carbolic acid without being changed, salicylic acid after combining with sodium. Investigations by Nencki, Sahli, and Lépine have proved the truth of this statement beyond contradiction, and these writers have, as a consequence, recommended its internal use in "internal disinfection" in cholera, typhoid fever, and bacterial diseases. Dr. Dreyfuss (*Wiener Medizinische Blätter*, December 19, 1889), bearing these facts in mind, has recommended its use internally as a means of inducing the passage of an antiseptic fluid through the kidneys, ureters, bladder, and urethra; and claims that it acts in a much more intensive manner, and covers a wider field than can be accomplished through the injection of antiseptic fluid. Sahli further has shown that the urine of patients who have taken salol internally is aseptic, and that salol in large doses is well borne and never produces toxic symptoms. It is, therefore, quite as suitable for producing antisepsis in the urinary passages as naphthol is for the antisepsis of the intestinal tract. Dreyfuss has employed salol, either alone or in composition with various balsamics, in blennorrhœa, the full dose varying from 75 to 120 grains. Even in acute cases, treated at the very outset, this mode of treatment rapidly diminished the secretion, and in some few cases arrested it within a few days. Its effects are especially marked in combination with the use of cubebs or copaiba.

Finally, Dreyfuss recommends the use of salol in operations upon the urinary organs, for in this way the urine is kept aseptic, and one source of danger is thus avoided.

SALICYLATE OF SODIUM IN CHOLELITHIASIS AND PLEURISY.

Professor Stiller, of Buda-Pesth, has used salicylate of sodium as a cholagogue for five years, and has found it better than any other drug in rapidity and certainty of effect. He gives the following illustrative case, which is one out of many: A man, æt. 50, had suffered for about four months almost daily from severe bilious colic, and had been jaundiced for about three months. Rigors, with a temperature of 40° C., frequently occurred. He was so emaciated that his appearance suggested cancerous cachexia. The liver was enlarged and resistant, but smooth. The gall-bladder could not be felt. After a week's treatment with salicylate of sodium the pains and fever disappeared, the icteric color decreased, vomiting ceased, and after a four weeks' stay in the hospital he was dismissed cured. The details of the mode of treatment are as follows: Half a gram of the salicylate was given four times a day. It was given in half a glass of soda water, or any other alkaline water—never in wafers, as these increased the gastric irritation. Usually 0.01 gram of the extract of belladonna was added to each dose, as a non-constipating anodyne. Linseed poultices were applied over the liver. The patient was kept on moderate diet for several days, and alkaline water free from iron, was given as beverage. Occasional pains were relieved by injections of morphine. Carlsbad and Vichy water was ordered by way of after treatment. The cholagogue properties of the drug had also been proved by experiments on animals. In cases of pleurisy, Professor Stiller had noted a very striking diminution of the effusion when salicylate of sodium was given. Absorption occurred in a surprisingly rapid way, and Dr. Stiller recommended the drug, even for diagnostic purposes, as excluding the purulent character of the exudation. From 3 to 4 grams in solution were administered daily, a spoonful being given every hour or two hours. The primary effect, no doubt, was on the kidney and the increased secretion of urine favored absorption. It was only recently that he had observed, in a case under his care, that the quantity of urine was increased from 650 to 2,000, and even 2,300 cubic centimetres under the influence of salicylate of sodium. The drug was also useful in sciatica.—Vienna Corres. *British Medical Journal.*

SIR ANDREW CLARK'S PILL FOR CHRONIC CONSTIPATION.

An anti-constipation pill, a little different from some others offered for the same purpose, bears the name of the eminent president of the Royal College. It contains one-half a grain, each, of aloin, extract of nux vomica, suphate of iron, powdered ipecac and myrrh. This pill should be taken half an hour before the last meal of the day.

SALOL IN TONSILLITIS.

Salol has proven of much service in the treatment of tonsillitis and pharyngitis, when given in doses of 60 grs. per diem. It is equally serviceable in scarlatinal angina and suppurative tonsillitis. On account of its insolubility it is prescribed suspended in mucilage; shake well before using; exclusively milk diet. The dysphagia rapidly disappears, the fever subsides and the progress of the case is satisfactory.

ASSOCIATION NEWS.

American Medical Association, Fortieth Annual Meeting.

REPORT OF THE RUSH MONUMENT COMMITTEE.

Your committee find themselves, unfortunately, not able to report *progress*, measuring the actual progression during the past year by their several expectancies of life. They can not beguile themselves into the belief that, at the present rate, any of them can ever hope to see the work completed upon which they set out with such enthusiastic confidence five years ago.

When the American Medical Association convened in Washington in 1884, its members from every State and territory almost forgot the professional reason of their assembly in gazing upon the objects of interest presented to them in that most beautiful of cities. Not by any means the least attractive and admirable of these objects, which appealed to the national pride of the visitors from whatever quarter and corner of the Union, were the statues of the men whose lives are part of the nation's history, and whose names are household words in every village that boasts a school. These effigies of heroes and patriots had been judiciously distributed over widely distant parts of the city, in conspicuous sites at the intersections of great thoroughfares whose admirable topographical arrangement, giving the eye full sweep in every direction, enabled them to be seen from many far points. Here the stranger was confronted by a monument in marble or bronze of some one of the famous executive heads of the government; there by the martial figure of a military chieftain or naval captain. The contour of the Corcoran Art Gallery, embellished with marked appropriateness with marble statues of the world's great artists, had prominent among them their American compeer, Thomas Crawford. At the portals of the Supreme Court of the United States sat the counterpart in bronze of its own greatest Chief Justice, John Marshall, the *Law's* illustrious exponent; and on the green mall before the halls of *Science* stood in silent dignity the form of the scientist Joseph Henry, American by nativity, cosmopolitan in fame. Besides these and others already there, were soon to be, the visitor was told, *Religion's* testimonial of Wesley and *Philanthropy's* tribute to Peabody, while even a few deaf-mutes were planning, and have since completed, a statue of their great teacher, Thomas Gallaudet, exemplifying *Education's* contribution to our national renown.

But nowhere was to be seen, nor had yet been suggested, any evidence in stone or metal that our profession had had its memorable man. Even within the Memorial Hall of the Capitol, among the eminent citizens whose statues had been contributed, two by each State, there was no physician. So notable was this lack that the query suggested itself, Is it a fact that among the builders of this nation *Medicine* has not furnished one? Have only painters and sculptors, presidents and lawmakers, generals and admirals, scientists and discoverers, teachers and divines, philanthropists and politicians, deserved this recognition from our country? Has there been no great doctor in medicine whose life has been as exemplary as theirs? None who has, like them, merited the crown of the patriot? None whose name has been known beyond the narrow circle of his own home?

Probably the medical residents of Washington felt the more keenly the omission, of which they were daily reminded, of a memorial of a member of their own fraternity; and when, as one of these, your reporter broached the matter to several of his fellow members, he was urged by them to bring it at once before the Association, which he accordingly did in the resolution that led to the establishment of the committee who are now before you.

It was beyond question that the medical profession of the United States had within its fold in the first days of the Republic, as it has to-day, at the opening of its second century, men who were and are the peers of these in any other profession or vocation in life; but it is unfortunately true that our profession is strangely indifferent to the assertion of its proper exalted place in the social system. While in this country the physician does not meekly acquiesce in the priority of rank and precedence elsewhere given to others of far less noble occupation, we, nevertheless, do join in hurrahing over generals and admirals, and neglect to do conspicuous honor to the equally great men in our own ranks. Yet, where can there be found among the patriot heroes of the Revolution a grander figure than that of *Benjamin Rush?* Who so preëminently worthy of representing the profession of medicine among the mighty men of mark of the era of our independence? In honoring him medicine is honored and ourselves, as members of that profession, each also honored.

Your Committee had intended to review the claims of Benjamin Rush to be commemorated as the greatest physician America has ever produced, but most happily for them, Dr. Pepper in his eloquent Address on Medicine has said all and more, and that far more impressively than they could have done. What more can be said in appeal to the physicians of America to contribute the means to erect this memorial? To-day our profession in the United States numbers more than one hundred thousand members, and your Committee have felt confident that among that number there would be at least forty thousand, who would spontaneously contribute one dollar each toward the erection of a monument, unexceptionable as a work of art, a fitting testimonial to the great man portrayed, and creditable to the great profession of which he and ourselves were members. Alas! at the end of five years, their Treasurer reports that he has only received the first thousand of that forty on which they had so confidently counted.

It is true that the histories of other great monuments reveal similar discouraging delays. The splendid memorial shaft to Washington now standing on the banks of the Potomac, and which was only dedicated, while still unfinished, on the 22nd of February, 1836, began with a resolution adopted at a meeting of a few patriotic citizens on the 31st of October, 1833, at which a scheme for raising funds by small subscriptions of one dollar each was matured and laid before the public. "The measure," says our treasurer, Dr. Toner, the historian of that monument, "met with a liberal response from the people. It was the purpose of the Society to raise and expend a million of dollars on the monument. In 1836, the sum of twenty-eight thousand dollars had been raised and securely invested at interest. Nine years later a design was accepted and three years after, on the 4th of July, 1848, the cornerstone was laid. It rose to 150 feet and then the work ceased, and for eleven years the unfinished shaft was a constant reminder of neglect, and only the approaching centennial of the Declaration stimulated Congress to contribute to its completion."

In our own immediate day, we have the lamentable spectacle of the neglect to erect the projected statue to Grant, and of the tedious delay in building a pedestal for the statue of Liberty in the harbor of New York.

Nevertheless, we have but to look across the Atlantic to Italy where a statue to a patriot physician, *Agostino Bertani*, has been conceived since this to our own greater patriot, completed and unveiled at Milan on the 30th of May of last year. How many years before our own undertaking can be completed! Or—nearer at home—to a little band, with only the community of loss of voice and hearing, who have, in four years, contributed among themselves, between twelve and thirteen thousand dollars, with which they have erected in Washington, on Kendall Green, before the National Deaf-Mute College, their monument of Gallaudet, which will be unveiled the day after to-morrow, while in five years, less than one physician in every hundred has been found willing to contribute a simple dollar to the commemoration of this greatest of American physicians!

With an object so manifestly commendable and one that has received such unanimous approval; with words of encouragement and proffers of aid to this very time, one eminent medical writer, within a fortnight, having urged us not to abandon our undertaking as "the profession do not yet appreciate Rush's claim to pre-eminent recognition," and another, a distinguished medical editor, even later saying, "You can count upon any assistance in my power to further your commendable project to honor the memory of our greatest medical patriot;" after the exalted eulogy of Rush in the eloquent commemorative address of the President of the College of Physicians of Philadelphia, Dr. Mitchell at the centennial anniversary of the institution of that distinguished body, in 1887, who approached his task "with reverent doubt of my powers to do justice to the greatest physician this country has ever produced;" after Dr. Morton's extolment of his thirty years' services as Physician of the Pennsylvania Hospital, pronouncing him "a man whose views were half a century in advance of the times;" after the address before the Medico-Legal Society of New York, by the President of the American Neurological Society, Dr. Mills, who selected "Benjamin Rush and American Psychiatry" as his most appropriate text—an association, the justice of which Tuke, of London, recognized;—after another Englishman, Benjamin Ward Richardson, in analyzing Rush's position in medicine, has directed attention to his standing as a patriot, politician, philanthropist, orator, teacher and man of letters; after the testimony of the Chairman of our Committee on Arrangements, Dr. Storer, before the Section on Obstetrics of this session, yesterday, to Benjamin Rush, obstetrician; and after the classic address in medicine to which you have just listened from the learned Provost of the University of Pennsylvania, himself so eminent that no living American physician stands above him; after all this, your committee are constrained to feel that they may be themselves to blame for the tardy progress of the enterprise, and they are, therefore, ready to resign into your hands the trust you have confided to them, that you may select others who may discover some shorter road to success than they have done. In doing so, they beg to be permitted to give utterance to the earnest wish that nothing may ever cause you to waver in the resolution you adopted with such unanimity to erect a statute in the city of Washington to this illustrious American physician.

The splendid National Medical Library and Museum, which under the auspices of the Medical Department of the Army and through the personal efforts of its distinguished curator, Dr. Billings, has been implanted in that classic ground near by the temple and museum of science, should like the latter have the effigy of its grand master to stand, as long as it shall stand, before its doors, greeting the generations of physicians and scientists, who shall visit these halls from every State of our own Union, and those who, as years pass, shall be drawn hither from foreign countries by the fame of the teachers who shall have been nurtured there. However remote that time; however venerable this now new edifice shall have become; however lengthy the roll of great and good physicians, who during these ages shall have graced our history, the name and fame of Rush will remain undimmed and imperishable. Brother physicians of this day, we implore you each to throw his pebble on the cairn, on which shall rest a memorial of him, as imperishable as his own name, as enduring as his own fame.

All which is respectfully submitted.

Albert L. Gihon, M.D., Chairman.

REPORT OF THE TREASURER.

The Treasurer of the Rush Monument Committee begs leave to make this his third annual report of the financial status of the project intrusted to them by the American Medical Association.

Dr. Gihon, the Chairman of the Committee, has so ably presented the history of our efforts as well as the delay experienced in raising the necessary funds, from a wealthy and cultured profession fully sympathizing with and approving the measure, that I will not dwell upon this feature of the question. However, these delays neither prove a studied indifference on the part of our medical men nor an unwillingness on their part to contribute the necessary funds to erect the monument. The enterprise has more friends today than ever before, and the next year will, I believe, bring into the treasury more money than has thus far been raised. And simply because the work proposed has become more widely known, and every physician who is at all acquainted with the exalted character of Dr. Rush, and who loves his country and his profession, will desire to contribute his dollar to the erection of the proposed memorial.

The total amount of money that has been received by the Treasurer of your Committee is $1,119.50.

The total amount disbursed is $193.31.

Total amount remaining to the credit of the Committee in the bank of Riggs & Co. is $926.19.

The Pennsylvania State Medical Society voted $500 to the fund for the erection of the Rush Memorial Monument, to be paid $100 annually. Two hundred dollars of this appropriation has been paid and is credited in this report. The Michigan State Medical Society voted $100 to the Monument fund, which fact was mentioned in last year's report, but this contribution has not yet reached the treasury. With these amounts due, $400, and the deposit in bank, $925.19, we may confidently assert that we have available $1,325.19.

Herewith is exhibited the register which gives the names of every individual and society that has thus far contributed to the fund, with the amount given; also the bank book and the vouchers for all expenditures. Appended to the report are the names of the contributors during the last year. All of which is respectfully submitted by

J. M. Toner, Treasurer.

Adams, O. H.,[1] Vineland, N. Y.; Akins, W. T., Chicago, Ill.; Alcorn, A. W., Ravenna, O.; Allis, O. H., Philadelphia, Pa., Treasurer of Pennsylvania State Medical Society, $100; Atchison, J. B., Helena, Mont.; Atkisson, F., Ft. Benton, Mont.

Baldwin, S. C., Helena, Mont.; Barbour, G. H., Helena, Mont.; Bateman, Ephraim, Cedarville, N. J.; Battle, S. W., Asheville, N. C.; Barnett, J. R., Neenah, Wis.; Bidwell, Ed. H., Vineland, N. J.; Brooke, Edgar, Elk Horn, Mont.; Bullard, W. M., Wicks, Mont.

Campbell, Edward R., Bellows Fall, Vt.; Capron, F. P., Providence, R. I.; Carmichael, David L., Helena, Mont.; Carr, A. G., Durham, N. C.; Clark, Almon, Sheboygan, Wis.; Cole, Chas. R., Helena, Mont.; Collins, G. L., Providence, R. I.

Daly, W. H., Pittsburgh, Pa.; Dare, Charles H., Shiloh, N. J.

Eaton, F. M., Providence, R. I.; Elmer, H. W., Bridgton, N. J.; Elmer, Matthew K., Bridgton, N. J.; Elmer, William, Bridgton, N. J.

Fenn, C. M., San Diego, Cal.; Fithian, H. C., Port Norris, N. J.; Fisher, C. H., Providence, R. I.; French, S. W., Milwaukee, Wis.

Galloway, W. T., Eau Claire, Wis.; Gelsthirp, W. H., Bimini, Mont.

Hall, John H., U. S. N.; Hartman, W. B., St. Mary's, Pa.; Hasbrouck, S., Providence, R. I.; Henry, F. P., Philadelphia, Pa.; Hersey, G. D., Providence, R. I.; Hoffman, Joseph H., St. Mary's, Pa.; Hoegh, K., Minneapolis, Minn.

King, S. H., Providence, R. I.; Kumpie, J. M., White Sulphur Springs, Mont.

Lathrop, J. M., Dover, O.; Lewis and Clark County Medical Association, Helena, Mont., $16.

Mackie, Wm., Milwaukee, Wis. $5; McDonald, D. McH., Helena, Mont.; McKay, D. McH., Helena, Mont.; Mitchell, J. M., Providence, R. I.; Morgan, J. R., Providence, R. I.; Musser, J. R., Rew Lodge, Mont.

Newell, T., Providence, R. I.; Newell, Wm. L., Millville, N. J.

Parberry, William, White Sulphur Springs, Mont.; Paullen, Geo. H., Shiloh, N. J.; Penney, E. W., Providence, R. I.; Pennsylvania State Medical Society, O. H. Allis, Sec'y, $100; Peck, George, U. S. N., $3; Potter, J. Barron, Bridgeton, N. J.; Peckham, F. H., Providence, R. I.; Pittman, N. J., Farborough, N. C.; Poole, B. G., Washington, D. C.; Price, Joseph, Randolph, O.

Radeke, G., Providence, R. I.; Ragan, P. J. Virginia City, Mont.; Read, J. M., Helena, Mont.; Reeve, J. T., Appleton, Wis.; Richey, S. O., Washington, D. C.; Robison, J. D., Wooster, Ohio.

Salvail, Napoleon, Helena, Mont.; Senn, Nicholas, Milwaukee, Wis., $5.; Sheppard, Joseph, Bridgeton, N. J.; Schulen, Carl, Helena, Mont.; Sligh, J. M. Helena, Mont.; Smith, S. S., Driftwood, Pa.; Smith,, Thos. J. Bridgeton, N. J.; Southerland, Carbo, U. S. A., Governor's Island, N. Y.; Smith, W. H. C., Millville. N. J.; Steel, Wm. L.,Helena, Mont.; Storer, H. R., Providence, R. I.; Strathen, Thos. E., Greenwich, N. J.; Squibb, E. H., Brooklyn, N. Y.; Sutherlin, W. K., Mansfield, La.

Tazer, A. A., White Sulphur Springs, Mont.; Thompson, J. C. R., Bridgton, N. J.; Tomlinson, Jos., Roadstown, N. J.; Treacy, William, Helena, Mont.

Upham, E. F., West Randolph, Vt., $2.50.

Wade, John W., Millville, N. J.; Waggoner, Joseph, Ravenna, O.; Waid, Jasen T., Ridgway, Pa.; Whittaker, John, S., Millville, N. J.; Whitney, J. O.; Pawtucket, R. I., $5.; Wiley, Charles R., Vineland, N. J.; Williams, H.

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[1] When not otherwise stated the amount is $1.

N., Providence, R. I.; Wilson, C. G., St. Mary's, Pa.; Wilson, S. M., Leesburg, N. J.; Wood, E. A., Pittsburgh, Pa.; Wood, Thomas, F., Wilmington, N. C.; Woodbury, F., Philadelphia, Pa.; Wynne, H. H., Helena, Mont.

A supplemental report of the treasurer of the Rush Monument Committee containing the names of contributors to the fund at the meeting of the American Medical Association in Newport, June 26, 1889, with the amount contributed by each.

J. M. T.

Anderson, J. W., Nashville, Tenn.. $5.

Baldy, J. M., Pa.; Ball, James T., Judson, Ind., $5; Braman, F. N., New London, Conn., $5; Briggs, W. T., Nashville, Tenn., $5.

Clark, A. P., Mass.; Collins, James, Philadelphia, Pa., $2; Comegys, C. G., Cincinnati, Ohio, $5; Connell, $5; Cullen, $1.50.

Deaver, John B., Philadelphia; Pa., $2; Douglass, George, Oxford, N. Y., $5; Dulles, C. W., Philadelphia, Pa., $5.

Earley, C. R., Ridgway, Pa., $25; Earley, F. G., Ridgway, Pa., $5; Eldridge, J. H., East Greenwich, R. I., $2; Emerson, J. E., Detroit, Mich., $2.

Fordyce, B. A., Union Springs, N. Y.; French, Geo. M., Malden, Mass.

Garcelon, Alonzo, Lewiston, Me., $10; Glynn, A. G., Attica, N. Y., $5; Gordon, S. C., Portland, Me., $5; Greenly, Ky.; Griswold, E., Sharon, Pa., $2.

Hamilton, J. B., Washington, D. C., $5; Herr, M. S., Lancaster, Pa., $5; Herrick, H. J., Cleveland, Ohio, $5; Holmes, Edward W., Philadelphia, Pa., $5; Hulshizer, Allen H., Philadelphia, Pa., $5.

Jackson, J. W., Kansas City, Mo., $5; James, Henry, Waterbury, Vt., $5; Jennings, C. G., Detroit, Mich.

Kent, J. B., Putnam, Conn., $5.

Lathrop, M. C., Dover, N. H., $5; Littlefield, H. H., Bardstown, Ill.; Love, I. N., St. Louis, Mo.; Lunsden, W. J., Elizabeth City, N. C.

McCall, Hugh, Lapeer, Mich., $5; McClellan. B. R., Xenia, Ohio; McClure, B., Dubuque, Iowa, $5; McGaffigan, A. J., Carlyle, Ill.; Mabon, Thomas, Pittsburg, Pa., $5; Minges, Geo., Dubuque, Iowa, $2; Moore, E. M., Rochester, N. Y.; Moore, R. C., Omaha, Neb.; Morton, Thomas S. K., Philadelphia, Pa., $5.

Norris, A. L., Cambridge, Mass.; Noyes, J. F., Detroit, Mich., $5; Noyes, Robt. F., Providence, R. I., $2.

Parvin, T., Philadelphia, Pa., $5; Pennell, W. W., Frederickton, O., $5.

Quimby, I. N., Jersey City, N. J., $5.

Scott, W. J., Cleveland, Ohio, $5; Sears, J. H., Waco, Tex.; Shackford, C. H., Chelsea, Mass., $2; Smith, E. B., Providence, R. I.; Smith, E. L., Seattle, W. T.; Sothorn, J. T., Washington, D. C., $2; Stephenson, R., U. S. N., $5; Stockton, C. G., Buffalo, N. Y., $5.

Taylor, Jas. R., City N. Y., $5; Thomson, Geo. N., Boston, Mass.; Turner, H. Edward, Newport, R. I., $2.

VanWyck, R. C., Hopwell Junction, N. Y.; Vaughan, V. C., Ann Arbor, Mich., $5.

Wales, T. A, Elmira, N. Y., $5; Walker, H. O., Detroit, Mich., $5; Watson, B. A., Jersey City, N. J., $3; Whitney, J. O., Pawtucket, R. I., $5; Wyckoff, C. C., Buffalo, N. Y., $5.

UNPARALLELED LONGEVITY.—The death of the very ancient Indian known as "Old Gabriel" took place at Salinas, Cal., March 16, at the alleged age of 150. When the Franciscan missionaries reached California about a century ago, old Gabriel was then a grandfather, and they are responsible for setting down the old fellow's birth-year at 1740. He never used tobacco or alcohol and led a placid and uneventful form of existence.

SOCIETY PROCEEDINGS.

Philadelphia County Medical Society.

Stated Meeting, January 22, 1890.

THE PRESIDENT, W. W. KEEN, M.D., IN THE CHAIR.

DR. ANDREW GRAYDON read a paper entitled

NOTES ON THE USE OF STATIC ELECTRICITY IN GENERAL PRACTICE. '

(*Concluded from page 588.*)

In the matter of difference of poles I have seen pain relieved in head affections with the positive current and irritated by the negative, and *vice versa*, each patient having a rule of its own governing the application. This effect of polarity I have only seen in the above-mentioned class of ailments, not elsewhere.

We can also derive from the static induced the benefits of the faradic current, with the additional advantage of a "fixed polarity and direction, and greater electro-motor force," less pain in application, and convenience in use. Powerful muscular contractions are obtained by the spark, the effect of which blow is not limited to the immediate part subjected to it, for the reflexes are deeply and widely stirred, and, as Dr. Morton puts it, we get "simple mechanical disturbances followed by a local alteration of nutrition, and reflex action from the irritation of the peripheral distribution of nerves."

The following are the deductions I would present in concluding this paper:

1. Static electricity is a safe and reliable agent in the general practice of medicine. I do not mean to say that its reliability is of such a nature that its environments are to be neglected. For example, the office in which the instrument stands must not have any dampness about it. That state of perfection has not yet been reached that will give a static current at all times in an office so damp that the paper will not stick to its walls. A wooden case can hardly be made which will not absorb some moisture in an atmosphere like that. In placing a machine I should see that there was no wet cellar under it, if the office be on the first floor; when the room is on the second it is not so material.

2. This treatment can be applied pleasantly and with benefit to the patients, and at times when the galvanic and faradic cannot be used.

3. In "static insulation" we get results only obtainable from "general galvanization" and "general faradization," without the expense of time, trouble, and exposure—and frequently, too, after both those forms have failed.

4. In many forms of pain prompt and permanent relief follows its application, such as is unequaled by other agents.

5. As a tonic in systems overwrought, overdrawn, mental grip slipping away, it performs a very important part. The readiness with which it can be applied, and the good results obtainable, prompt me to make use of its properties frequently.

6. In various forms of headaches its effects are uniformly good. It is a common remark to hear from patients, "I can feel the pain being lifted, the heaviness going," or similar expressions indicative of appreciable relief.

7. In the treatment of insomnia the use of the douche is effective, a feeling of drowsiness making itself felt during its application.

8. In treatment about the head I have found a difference in the effect between the positive and negative poles, not elsewhere.

9. The benefit of the faradic current is obtained from the static inducer.

10. Growth of hair, I have observed, has been promoted, and the falling out of it stopped in some of my cases of head pain.

Dr. Carpenter and Dr. Ranney both report remarkable changes in the appearance of so-called "ivory spots," or alopecia areata. Cases of eczema have also been reported by observers treated and cured by the spark.

I add the following from Dr. Ranney: "I have found heavy static sparks surpass any other form of electrical application for the relief of contracted muscles. Post-paralytic contractures, old deformities from preternaturally shortened muscles, often yield like magic to the influence of heavy sparks. I know of no other agent which exerts so marked an effect of a happy kind upon the 'lightning pain' observed in locomotor ataxia as do the heavy static sparks."

Other indications have been met successfully by this agent and reported by other observers.

Enough has been said, and more can be added, to satisfy any inquiring mind that in static electricity we have a force that has earned for itself a place in the armamentarium of the physician in his search for relief-giving agents.

NECROLOGY.

John Ball, M.D.

Dr. John Ball, formerly a resident of Brooklyn, died at Daytona, Florida, April 2, aged 72 years. He was a graduate from the New York University Medical Department in 1846. He made a specialty of ophthalmic practice during the earlier years of his residence in Brooklyn, which lasted about thirty-five years, but latterly he gave much attention to uterine surgery. During the past eight years he had relinquished city practice, spending several months each year in Florida.

DOMESTIC CORRESPONDENCE.

LETTER FROM BALTIMORE.

The Commencement Exercises of the Medical Colleges—The Medical School of the Johns Hopkins University—Prof. Osler's Clinics—Representatives to the International Medical Congress—The Governor's refusal to sign the State Medical Law—The Proposed Conference of the Medical Faculties at Nashville.

The season of medical instruction in this city is drawing to a close. Two of our medical schools have held their Commencements already, the College of Physicians and Surgeons leading off on March 18 with 72 graduates. The class at this school this winter numbered 343, the largest it has ever had and I believe the largest ever known in this city. Prof. Opie, the Dean of this school, who has been absent for several weeks in the South, recuperating from the effects of pyæmia, contracted in an operation on one of his patients, has returned to duty and was able to take part in the Commencement exercises. The new city hospital, a magnificent building erected by the Sisters of Mercy in the very heart of the city, affords abundant clinical material for this school. The Faculty have made a legal contract with the sisters by which they are to have forever the use of the patients for clinical instruction. This enables them to utilize the entire building adjoining the hospital and hitherto used for both college and hospital, for instruction alone, and they are already making arrangements to adapt it to its purpose in the fullest degree in the didactic and laboratory instruction of the large classes which they anticipate in the future. The Maternité Lying-in Hospital, and one-half the medical service at Bay View Asylum, the large city almshouse, are also under the control of the Faculty of this school. The success of this institution illustrates what can be accomplished by having a Dean of business capacity and large executive ability. The Faculty have also had the wisdom to surround themselves with competent young physicians who fill with energy and satisfaction the subordinate positions in the teaching corps. For instance, the pathologist and lecturer on legal medicine is the post-mortem physician of the city, who utilizes his large opportunities for the benefit of the school.

The Baltimore University, the latest candidate for medical-student patronage, having originated from a split in the Baltimore Medical College a few years ago, held its Commencement March 25, graduating twenty-six in a total attendance of fifty. There was also one graduate in the Veterinary School, which is under charge of Prof. Robert Ward, F.R.C.V.S. The Baltimore Medical College will hold its Commencement next week.

It has 100 students and the presumption is that it will have about fifty graduates.

The University of Maryland, as is well known, has decided upon a three-year course, preliminary examination, etc., to take effect in 1891. This has given great satisfaction to the large number of alumni of this old and venerable school. The same difficulty has been in the way of advance in this school as has deterred so many others from going forward in response to the demand of the day, viz.: the lack of endowment. A bequest has recently been made to it by an alumnus in the West, of a considerable amount, but it is not immediately available. The Commencement of this school will be held on the 16th inst. The candidates for graduation number 108, of whom it is expected eighty will pass the rather rigid requirements now in force. The attendance is not so large in the Medical School as last year—about 230, I understand. There are also flourishing law and dental classes; the latter numbering about 125, with forty-three graduates at the recent Commencement. The Dental School has, in common with the other leading schools of the country, adopted the three-year course.

An interesting episode took place at the close of the lectures in the School of Medicine. Professor George W. Mittenberger took final leave of the class and of the school. He has completed his half century in the service of the school, and now consummates a determination which he has desired to carry out for several years, to resign his professorship. His connection with the school began in 1837, when he became a student. On his graduation in 1840, he was appointed Demonstrator of Anatomy, in 1852 Professor of Materia Medica, and in 1858 Professor of Obstetrics. He is a model accoucheur. He was much affected in saying farewell to the scene of his long labors, and made a very touching address. The students are getting up a memorial in his honor. It is expected that Professor Michael, who now holds the chair of Anatomy, will succeed him. Laboratory instruction will shortly be made compulsory in this school, and arrangements are being made for the erection of buildings in the University grounds for such use.

The Woman's Medical College closes lectures on the 12th. Examinations will occur for the remainder of the month, and the Commencement will be held May 1. This school has a severe course of study. There are twenty students in attendance this year and seven candidates for graduation. The hospital of the Good Samaritan, with twenty-five beds, is under the control of this school.

As is well known, the medical school of the Johns Hopkins University has not yet been organized. The school is attached to the university, and owing to the failure of the Baltimore and Ohio Railroad, in which its securities are chiefly invested, and the financial difficulties consequent thereon, the University has not the funds, at present, to start the school. It is very uncertain when it will have them, and, therefore, it may be many years before the school will be put in operation. The hospital, which has its own special bequest of three and a half millions or thereabouts invested in other securities, does not share in this embarrassment, and work is progressing there steadily and satisfactorily. Several special courses have been delivered upon various subjects during the winter by the medical staff, and the clinics are open to the profession and are largely availed of, especially those of Professor Kelly. There are a large number of internes residing in the hospital, chiefly graduates of the University of Maryland.

Professor Osler has many interesting cases at his clinics. He is struck with the comparatively large number of cases of aortic aneurism with which he meets. In the course of a few months he has had no less than nineteen. His methods are very exhaustive and the microscope is in constant use, especially in the diagnosis of obscure fevers. Among the interesting cases exhibited were one of bilateral athetosis in a man æt. 24, who was yet able to earn his livelihood by using the pick, and one of cross-legged progression, the result of infantile cerebral paraplegia, in a woman aged 39. A few days ago he exhibited the amœba which is believed to be the cause of dysentery. Professor Kelly constantly performs laparotomy, and in cases which would be refused by our other local abdominal surgeons. His assistant informed me, some weeks ago, that he had operated about forty-five times in four months, with three deaths, one due to septicæmia. His success in Cæsarean section has been remarkable.

By the way, it is reported upon good authority that Professor Osler is shortly to be married to one of the ladies connected with the Training School for Nurses at the hospital. I may mention also that this training school is in a very flourishing condition, with a large number of students in attendance, and a long and most elaborate course of instruction, given by the principal members of the staff. Professors Osler and Welch will represent the hospital at the Berlin International Congress in August.

Our hopes of at last having a medical law for the regulation of practice in this State have been dashed to the ground by the refusal of Governor Jackson to sign the law passed by the late Legislature, and a copy of which is published in the last week's *Maryland Medical Journal.* He bases his objections on the ground that it is unjust. It provided for twelve examiners, seven regular and five homœopathic, for examination of all those who should commence practice in the State after its passage, regardless of the schools from which they graduated. In the beginning the homœopathists were allowed three of the twelve members of the Board, which was a sufficient allowance, as they number only sixty in the State, to 2,000 regular physicians; but rather than jeopardize the law the number was increased to five. On the whole the law was a good one, and we were congratulating ourselves on its passage by both branches of the Legislature, when the announcement of the Governor's action fell like a pall upon all our hopes and aspirations. Politics, I fear, is at the bottom of his action, although some of the schools opposed it strongly. Prof. Michael, of the University of Maryland, fought hard for it, so that it was said the members of the Legislature suspected that *it might be a measure in the interest of his school.* Professor Ashby also deserves credit for his good work in connection with it. We yet hope that the Governor may be induced to change his views. If this bill fails, we are in a very hopeless condition, for it is not likely that those will be again soon found who will give up as much time and expense to the work as Professors Michael, Ashby and his colleagues.

The proposed conference of Medical Faculties at Nashville, in May, which originated, as you know, here, has met with very general notice and approval in the medical press, and favorable response from a number of the schools. It was at first intended only to stir up our own colleges here to take a forward step, but the Faculties argued why take such a suicidal step as that, and what would it advantage the cause of medical education if the Baltimore schools committed self-destruction. So it was decided as not feasible to do anything unless a large number of schools through the country joined in the movement. A proposition then came from the Faculty of the College of Physicians and Surgeons to call a national convention and make the movement a national one. A mistake has been made in supposing that the subjects mentioned in the circular to the medical schools represent the final action of the Conference. They are only suggestions upon which it was thought desirable that the delegates should be able to announce the views of their Faculties, in order that something definite might be decided. Of course, no one knows in advance what will be the decision of the Conference. In any event the measures mentioned in the circular can only be considered as representing the minimum of requirements in the new régime. Another point: it is in the highest degree desirable that *all* the schools should participate in the Conference, whether they are three year schools or not. For not only can they bring their influence to bear in securing urgently needed improvements, but we need uniformity in what is to be done. I mean that a school may have a three-year course, but it may fail to enforce a preliminary examination, or a laboratory course, or *vice versa.* Therefore there is great responsibility resting upon those teachers and schools who hold aloof in this reform movement, when their aid and influence might be productive of such good to the profession and the cause of medical education.

E. F. C.

April 10, 1890.

BOOK REVIEWS.

HANDBOOK OF MATERIA MEDICA, PHARMACY, AND THERAPEUTICS. By SAMUEL O. L. POTTER, M.A., M.D., Professor of the Theory and Practice of Medicine, Cooper Medical College, San Francisco; *Author of Quiz Compends of* Anatomy and Materia Medica, etc. Second Edition. Philadelphia: P. Blakiston, Son & Co. 1890.

Dr. Potter has embodied many original ideas in the preparation of this work, some if not all of which will prove of very great value to the reader. After an ample introduction to his subject, about one-half of the entire volume is devoted to the subject of materia medica and therapeutics. A peculiarity of arrangement is here noted, for the author, instead of following the classification of remedies laid down in the introduction, has arranged his subject in alphabetical order, as best adapted for the grouping of closely related agents under the title of the principal member of each class; a method, no doubt, which will in many respects prove advantageous to the novice. In this section every preparation included in the last U. S. Pharmacopœia is fully noticed, together with the prominent unofficinal agents. The physiological action, incompatibilities and therapeutical application of each remedy is described clearly and concisely.

The second portion of the book, comprising about 57 pages, forms a very valuable feature of the work. It is devoted to pharmacy, the author's idea being that young practitioners could in many instances advantageously dispense their own medicines, and that all physicians should be well informed as regards the principles of pharmacy.

The third part of the work is occupied with special therapeutics in the form of an alphabetically arranged index to the treatment of diseases as recommended by various authorities, all of whom are specifically mentioned by the conscientious author. The plan of this chapter might be objected to by some as an ill-advised way of reaching a desired end, but we believe that it will commend itself to many a junior practitioner—for whose needs, indeed, the author has prepared his entire work.

An appendix of considerable length contains a variety of useful information of the general character of that found in many physicians' visiting lists, and contains in addition instructions in prescription writing, supplementary to others found in the department of pharmacy.

The many and important additions to and changes in our materia medica have led to a great influx of new works and new editions of the older ones, among which we believe that the present one is destined to occupy a high place of favor.

Medical and Surgical Memoirs. Containing Investigations on the Geographical Distribution, Causes, Nature, Relations and Treatment of Various Diseases, 1855–1890. By Joseph Jones, M.D., Prof. of Chem. and Clin. Med., Tulane Univ. of La.; Visiting Physician of Charity Hospital; Pres. of the Board of Health of the State of La., etc. Vol. iii, (in two parts). Illustrated by Plates, Maps, Charts, Tables and Engravings. Pp. 1540. New Orleans: Jos. Jones, M.D,, 156 Washington Ave. 1890.

It is necessary to see this enormous array of facts in order to form the most superficial impression of the character and extent of the work done by the author. The work is of a cyclopædic character, and offers a whole mine of information to the reader. Nearly all of the topics considered relate to the general subject of State Medicine, a department in regard to which the writer is abundantly able to speak authoritatively. In Part I the subject of quarantine in Louisiana is discussed particularly in reference to yellow fever and small-pox; the history, methods of operations, and results secured in the preservation of life and protection of commerce are fully set forth; much space is devoted to a consideration of the vital statistics of the State of Louisiana and the city of New Orleans. In this connection the writer is able to present a great many facts of the highest interest and importance, particularly in regard to the city which has so often been ravaged by pestilence. Several hundred pages are occupied with the history and practical application of vaccination, including the original papers by Jenner and his colleagues. This is one of the most prominent features of the volume and one which deserves a careful perusal; these papers are illustrated by reproductions of Jenner's original plates.

Part II contains monographs relating to medical education, teratology, nervous diseases, insanity, public and international hygiene, progress of the discovery of disinfectants and their application to the arrest of contagion, and a history of maratime hygiene as applied by the great naval powers.

One cannot too highly praise the indefatigable industry which is shown in the accumulation and publication of the observations of a life time. The department of State Medicine is rapidly assuming the importance which it deserves, and books of this character may well occupy the careful attention of all who are interested with the duties of public sanitation both at home and abroad.

Medico-Chirurgical Transactions. Published by the Royal Medical and Chirurgical Society of London. London: Longmans, Green & Co., Paternoster Row, 1889. Pp. 457.

Few medical societies can show such admirable work as that of the Medical and Chirurgical Society. The present volume is one of very great interest. It contains twenty-four papers nearly equally divided between medicine and surgery. All of these are of far more than ordinary interest and many of them are beautifully illustrated—furthermore there is hardly a paper in the volume that does not represent a large amount of personal observation and experience, and not one that does not deal with subjects alive with interest to the physician and surgeon.

As an indication of the character of the Transactions the titles of a few of the papers are mentioned: Acetonuria and its Relations to Diabetic Coma, by Samuel West, M.D.; On the Relations of Chorea and Rheumatism, by A. E. Garrod, M.D.; On a Case of Actinomycosis, by R. D. Powell, R. J. Godlee, *et al*; On the Clinical Significances of Clay Colored Stools, etc., by T. J. Walker, M.D.; Twenty-five Cases of Nephrectomy by Abdominal Section, by J. K. Thornton, M.B.; A Case of Gastro-Enterostomy, together with a Table of the Cases hitherto reported, by H. W. Page, M.C. The last mentioned paper is remarkable for the superior excellence of its illustrations.

The Physician's Leisure Library. Diabetes. By A. H. Smith, M.D., Professor of Clinical Medicine and Therapeutics New York Post Graduate Medical School; Physician to the Presbyterian Hospital, etc. Detroit, Mich.: George S. Davis, 1889. Pp. 74.

This brochure is the result of a successful attempt to give the reader the practical points in relation to the disease under consideration. The subject is treated in a concise and able manner.

A Handbook of Obstetrical Nursing, for Nurses, Students and Mothers. By Anna M. Fullerton, M.D., Demonstrator of Obstetrics in the Woman's Medical College of Pennsylvania; Physician, Obstetrician and Gynecologist to the Woman's Hospital of Philadelphia, etc. Philadelphia: P. Blakiston, Son & Co., 1890. Pp. 214. Price $1.25.

This little work comprises the course of instruction in obstetrical nursing given to the pupils of the Training School for Nurses in the Woman's Hospital of Philadelphia. Its object has been very commendably carried out and it furnishes full, complete and trustworthy instruction in this branch of nursing. No class of patients requires more careful and skilful nursing than lying-in women, and the change from the old fashioned, ignorant midwife to the modern intelligent obstetrical nurse is a notable indication of enlightenment in these days. Nurses, and physicians too, will find this book an extremely suggestive and useful one.

MISCELLANY.

Health in Michigan.—For the month of March, 1890, compared with the preceding month, the reports indicate that cholera infantum increased, and that typho-malarial fever, cholera morbus, inflammation of brain, diphtheria and puerperal fever decreased in prevalence.

Compared with the preceding month the temperature was lower, the absolute humidity and relative humidity were less, and the day and night ozone were more.

Compared with the average for the month of March in the four years 1886–1889, inflammation of kidney, influenza and cerebro-spinal meningitis were more prevalent, and typho-malarial fever, puerperal fever, diphtheria, typhoid fever, inflammation of brain, cholera morbus, scarlet fever, dysentery and intermittent fever were less prevalent in March, 1890.

For the month of March, 1890, compared with the average of corresponding months in the four years 1886–1889, the temperature was lower, the absolute humidity and relative humidity were less, and the day and night ozone were more.

Including reports by regular observers and others, diphtheria was reported present in Michigan, in the *month of March, 1890, at 61 places, scarlet fever at 70* places, typhoid fever at 25 places, measles at 111 places, and small-pox at 1 place.

Reports from all sources show diphtheria reported at 3 places more, scarlet fever at 7 places less, typhoid fever at 9 places less, measles at 42 places more, and small-pox at 1 place less in the month of March, 1890, than in the preceding month.

LETTERS RECEIVED.

Dr. Seaton Norman, Evansville, Ind.; The Wilmington Dental Mfg. Co., Philadelphia; Dr. F. H. Bosworth, New York; Dr. S. B. Craver, Bryan, Ohio; Rio Chemical Co., St. Louis, Mo.; J. H. Bates, New York; Dr. A. L. Hummel, Philadelphia; Dr. G. W. Davis, San Francisco, Cal.; La Gazette Médicale, Montreal, Can.; Dr. C. O. Cooley, Madelia, Minn.; Medical and Surgical Sanitarium, Battle Creek, Mich.; Dr. J. A. Scroggs, Keokuk, Ia.; Horlick's Food Co., Racine, Wis.; Dr. A. R. Bowen, Maquoketa, Ia.; Dr. H. L. Getz, Marshalltown, Ia.; Dr. S. J. Radcliffe, Washington; Dr. E. F. Walker, Providence, R. I.; J. P. C. Lewis, Catskill, N. Y.; Dr. Kennroth, Blairstown, N. J.; Dr. J. H. Kellogg, Battle Creek, Mich.; Dr. Joseph Eastman, Indianapolis, Ind.; Parisian Specialty Co., New York; Dr. William B. Atkinson, Philadelphia, Pa.; Dr. Wm. H. Morrison, Holmsburg, Philadelphia, Pa.; Dr. M. D. Hull, Arrowsmith, Ill.; Dr. R. T. Yoe, Louisville, Ky.; Dr. G. E. Humphrey, Galveston, Tex.; Doliber Goodale Co., Boston, Mass.; Dr. Jay H. Radley, New York; Dr. Eugene S. Talbot, Chicago; Dr. Bourneville, Paris, France; Dr. C. C. Copeland, North Madison, Ind.; Thos. Cook & Son, New York; The Upjohn Pill & Granule Co., Kalamazoo, Mich.; Lea Brothers & Co., Philadelphia, Pa.; Dr. W. S. Watson, Matteauwan, New York; Dr. C. B. Porter, Boston, Mass.; Dr. E. C. Kenny, Norwich, Conn.; A. H. Roffe & Co., Boston, Mass.; The Subscription News Co., Chicago; Medical Press Agency, London, Eng.; St. Joseph Medical Herald, St. Joseph, Mo.; The Ale & Beef Co., Cincinnati, O.; The Charles H. Phillips Chemical Co., New York; E. Steiger & Co., New York; T. W. Hannaford, London, Eng.; Johnson & Johnson, New York; F. O. Beckett, Washington; J. M. Ceballos & Co., New York; Dr. J. Abbott Cantrell, Philadelphia; W. H. Schieffelin & Co., New York; P. C. Lewis, Catskill, N. Y.; Dr. Wm. Pepper, Philadelphia; Parke, Davis & Co., Detroit, Mich.; Soden Mineral Springs Co., New York; Dr. Chas. E. Rogers, Minneapolis, Minn.; Dr. Albert Stifel, Wheeling, W. Va.; Dr. J. S. Philips, Allegheny, Pa.; Horlick's Food Co., Racine, Wis.; The Imperial Granum Co., New Haven, Conn.; The Addressing, Duplicating & Mailing Co., New York; Dr. G. A. White, Sacramento, Cal.; University of Pennsylvania, Philadelphia, Pa.; Dr. Wm. B. Atkinson, Philadelphia, Pa.; Wm. R. Warner & Co., Philadelphia, Pa.; Dr. M. T. Zellers, Hooper, Neb.; Dr. J. Trush, Cincinnati, O.; Geo. S. Davis, Detroit, Mich.; The Antikamnia Chemical Co., St. Louis, Mo.; Le Progrès Médicale, Paris, France; Dr. Theo. Griffin, Baxter Springs, Kan.; Dr. G. W. Gallagher, New Haven, Pa.

Official List of Changes in the Stations and Duties of Officers Serving in the Medical Department, U. S. Army, from April 12, 1890, to April 18, 1890.

By direction of the Secretary of War, the following changes of stations of officers of the Medical Department are ordered:

Major John V. Lauderdale, Surgeon, from Ft. Davis, Tex., to Ft. Ontario, N. Y.

Capt. John O. Skinner, Asst. Surgeon, from Ft. Ontario, N. Y., to Ft. Davis, Tex.

Capt. H. O. Perley, Asst. Surgeon, from Ft. Wayne, Mich., to Ft. Mason, Cal.

Capt. H. G. Burton, Asst. Surgeon, from David's Island, N. Y., to Vancouver Bks., W. T.

Capt. Wm. E. Hopkins, Asst. Surgeon, from Ft. Mason, Cal., to Ft. Columbus, New York Harbor.

Capt. Wm. Stevenson, Asst. Surgeon, from Ft. Verde, Ariz., to David's Island, N. Y.

First Lieut. Charles Willcox, from Ft. Columbus, New York Harbor, to Ft. Bowie, Ariz. Par. 2, S. O. 83, A. G. O., April 9, 1890.

Lieut.-Col. Joseph C. Baily, Asst. Medical Purveyor, is granted leave of absence for two months on surgeon's certificate of disability, with authority for his admission to the Army and Navy General Hospital, Hot Springs, Ark., for treatment therein, by direction of the Secretary of War. Par. 10, S. O. 85, A. G. O., April 11, 1890.

By direction of the Secretary of War, Capt. Paul R. Brown, Asst. Surgeon, now at the Army and Navy General Hospital, Hot Springs, Ark., is relieved from station at Ft. Thomas, Ariz., and will report in person to the commanding officer, Little Rock Bks., Ark., for duty at that post, reporting by letter to the commanding General, Dept. of the Missouri. Par. 3, S. O. 84, A. G. O., April 10, 1890.

Major Passmore Middleton, Asst. Surgeon (St. Francis' Bks., Fla.), is hereby granted leave of absence for three months, on surgeon's certificate of disability. Par. 1, S. O. 85, Hdqrs. Div. of the Atlantic, April 12, 1890.

By direction of the Secretary of War, so much of par. 2, S. O. 83, A. G. O., April 9, 1890, from this office, as directs the transfer of Capt. William Stephenson, Asst. Surgeon, from Ft. Verde, Ariz., to David's Island, N. Y., is so amended as to substitute the words Columbus Bks., O., in place of David's Island. Par. 1, S. O. 89, A. G. O., Washington, April 16, 1890.

Official List of Changes in the Medical Corps of the U. S. Navy for the Week Ending April 19, 1890.

P. A. Surgeon H. G. Beyer, ordered to the U. S. S. "Yantic."

P. A. Surgeon Rufus H. McCarty, died April 12 with pneumonia, on the U. S. S. "Yantic," at Key West, Fla.

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ORIGINAL ARTICLES.

RADICAL CURE OF INGUINAL AND FEMORAL HERNIA.

Read in the Section of Surgery and Anatomy, at the Fortieth Annual Meeting of the American Medical Association, June, 1889.

BY JOHN B. DEAVER, M.D.,
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The object of this paper on the radical cure of inguinal and femoral hernia is to place on record the few cases it has been my good fortune to have operated upon; to speak of some of the complications we are apt to meet with in the course of the operation; to provoke a discussion on these by which we are able to learn the views of experienced surgeons who probably have had more experience with this operation than myself; also to learn their mode of operating and their criticism of the operation. The greater number of operations I have done have been for reducible hernia. At the present status of surgical science, the question of the radical cure in cases of operation for strangulated hernia, I think by the majority of operators at least, would receive a careful consideration, and only in the event that the patient's condition would not permit of further manipulation, would the operation be completed, as it was formerly done without attempting the radical cure. The operation for the radical cure of hernia has been until recently confined largely to the inguinal variety, but now is being practiced upon femoral, in fact upon all varieties of hernia.

The different operations from which we can select are Macewen's, Barker's, Banks', McBurney's, and others. Macewen's operation consists, as you well know, of exposing and freeing the entire sac when, with the contents reduced, the sac not having been opened, it is puckered up and reposited in the abdomen. The manner of closing the canal by Macewen is quite ingenious; the conjoined tendon is penetrated in two places by the threaded hernia needle—first from without inwards near the lower border of the tendon, and second from within outwards as high as possible on the inner aspect of the canal. One single thread is withdrawn from the point of the needle and the needle, with the other extremity of the thread, is removed, the loop presenting upon the abdominal aspect of the tendon. That portion of the stitch which comes from the lower border of the tendon is threaded by a second needle and, guided by the index finger placed in the inguinal canal, is introduced from within outwards on a level with the lower stitch in the tendon through Poupart's ligament and the aponeurotic structures of the transversalis, internal and external oblique muscles. The needle is now freed from the thread and withdrawn and again threaded with the suture which protrudes from the upper border of the tendon when it is introduced from within outwards, on a level with the upper stitch in the tendon, through the transversalis, the external and internal oblique muscles. It is then freed from the thread and withdrawn. The same stitch may be introduced lower down the canal if thought desirable, when the ends of the respective sutures are drawn tightly together and tied. Macewen also brings together the pillars of the external ring.

Barker's method consists in exposing and freeing the neck of the sac in the inguinal canal, opening it some little distance to the distal side of the upper end of the canal, seeing that all the contents are reduced, tying it off to the proximal side of the opening made in it, and dividing it below the ligature, using the stump to occlude the internal ring. The walls of the canal are brought together by interrupted sutures at a distance of ¼ inch apart, passed from within outwards and appear upon the surface of the external oblique aponeurosis, care being taken not to include the spermatic duct. These sutures, when tied, are cut off short and allowed to remain. The skin and superficial fascia are brought together by interrupted sutures.

Ball's method consists in exposing and isolating the sac, grasping its neck after the contents have been reduced (opening the sac if necessary to complete the reduction) with the broad catch forceps, and gradually twisting it until it is quite tight; then a stout catgut ligature is passed round the twisted sac as high up as possible, tied tightly and the ends cut off short. The next step is to pass two sutures of aseptic silk through the skin at a distance of about an inch from the outer margin of the wound, through the outer pillar of the ring and the twisted sac in front of the catgut suture, then through the inner pillar of the ring and skin upon the inside; the sac is now cut off in front of the sutures, they preventing it from untwisting. By this operation it is claimed that there is no resulting depression at the internal abdominal ring, but on the contrary, that the peritoneum is more prominent here than elsewhere in the immediate neighborhood, the peritoneum around the site of the internal ring being thrown into a number of radiating folds. Dr. Ball reports a case on which he operated for a very large right inguinal hernia and in which there was an incomplete inguinal hernia (bubonocele) upon the left side, where the latter hernia was cured by twisting the hernial sac of the side operated upon.

Banks' method consists in exposing and freeing the entire sac, opening it to make sure that all its contents are reduced. The sac is then pulled well down, tied up as high in the canal as possible before removing it. The next step consists in bringing the pillars of the ring together by two or three silver wire sutures which are left in position.

McBurney's method consists in exposing and freeing the sac throughout, when it is securely tied with a stout catgut or silk ligature at the internal ring, the sac being always opened to demonstrate that no portion of its contents remain unreduced, also to enable the operator to insert one or two fingers through the neck and a little way into the peritoneal cavity. This is done to positively guard against the return of a piece of the intestine or omentum into the sac during the application of the ligature. The ligature is tightened on the operator's finger and tied very tightly as the finger is withdrawn, leaving a pedicle of sufficient length to prevent slipping of the ligature; the rest of the sac is cut away. In preparing the wound for packing, from four to eight stout silk or catgut sutures according to the size of the wound are passed through the tissues which form the upper wall of the wound, namely: the conjoined tendon, the aponeurosis of the external oblique including the inner pillar of the external ring, and the superficial fascia and skin, the skin being carefully and deeply inverted while each stitch is tied tightly. The same number of sutures is passed through the tissues forming the lower wall of the canal, namely: the skin, the superficial fascia, and Poupart's ligament including at the lower part the outer pillar of the external ring; these are also tied tightly, exercising the same care to invert the skin. The object of these sutures is to positively secure patency of the wound for the formation of granulations from the bottom. Next, to lessen the width of the wound, two or more heavy stitches are carried across it, passed deeply through the skin and superficial fascia, these latter relieving the tension on the edge sutures so that they do not cut their way out too soon. The two last or tension sutures are tied over pledgets of iodoform gauze to avoid ulceration. The wound is now carefully irrigated, dusted with iodoform throughout and firmly packed with iodoform gauze. The portion of the wound beyond the canal is sewed up without packing, catgut or other drainage being inserted at the lower end if required. The packing of the wound after having lessened its width by the introduction of the tension sutures secures firm union, both from below upwards and from above downwards. By this union we obtain a firm cicatrix which offers the best possible barrier to the return of the rupture. By forcing the packing well up into the angle of the wound we have a condition of the peritoneum at and around the site of the internal ring the least favorable for the return of the hernia.

The operation which I have always performed with one exception, has been that of Barker, modified only in the introduction of the sutures (after the manner of Macewen) for closing the canal, and is as follows: Having exposed the sac throughout the inguinal canal it is carefully separated from the spermatic cord and the transversalis fascia, the dissection being carried well up to the margin of the internal ring, when a long aseptic silk ligature is passed beneath it a short distance from the ring. The sac is now opened, thus enabling me to see whether its contents are entirely reduced after applying taxis, and finally to complete the reduction by separating any adhesions that may exist between the contents of the sac or the contents themselves. If the sac contains omentum which is irreducible from the presence of adhesions, after having separated these I tie the omentum off with catgut ligatures and cut it away, returning the stump to the abdomen. After having completed the reduction of the contents I tie the ligature, which is placed beneath the neck of the sac, as high up as I possibly can. I now thread two large staphylorrhaphy needles, which I have had made especially for this purpose, with either end of the ligature and transfix the abdominal walls from within outwards, above and to either side of the position of the internal ring, including only, of course, part of the transversalis fascia, the transversalis and internal oblique muscles and the aponeurosis of the external oblique muscle. The ligatures now present upon the upper surface of the aponeurosis of the external oblique, upon which they are tied down firmly and cut off short, the stump of the sac occupying the site of the internal ring. The remainder of the operation consists in stitching the walls of the canal together, first transfixing the lower edge of the *conjoined tendon* with two long straight needles from below upwards, threaded at either end of a single aseptic silk ligature, care being taken to avoid the deep epigastric artery, the index finger being used to locate and protect the artery, at the same time to raise the lower edge of the tendon. The needles are carried across the canal and made to transfix Poupart's ligament on a level with the points of penetration of the conjoined tendon. Two or more of these deep sutures are usually required, this depending upon the length of the canal. The sutures are tied down upon the outer surface of the ligament and cut off close (in tying these sutures care should be taken not to make too great pressure upon the cord). Interrupted sutures (aseptic silk) are now introduced to complete the closure of the wound, those approximating the sides of the wound as far as the conjoined tendon, taking in above the skin, the superficial fascia, the aponeurosis of the external oblique, the internal oblique and transversalis muscles where these latter have been divided in exposing the internal ring, and the arching fibres of the internal oblique and transversalis muscle; below the skin, the superficial fascia and the aponeurosis of the external oblique muscle immediately above Poupart's ligament. Those at the extreme lower part of the wound including the skin, the superficial fascia and the aponeurosis of the external oblique upon either side. For drainage I use simply a few strands of chromicised catgut placed beneath the superficial set of sutures. The wound is dressed antiseptically, antiseptic precautions being carried out throughout the entire operation. From the time of opening the sac until it is tied and divided I suspend the use of the bichloride for irrigation, substituting hot distilled water. The superficial sutures only are removed. The patient is kept in bed for six weeks, when he or she is permitted to get up and go around without a truss. In dealing with the sac this operation is like that of Mr. Barker, but differs from Macewen's, Ball's, and McBurney's in that the fundus of the sac is not disturbed. In closing the canal it is very much like that of Macewen. My objection to exposing and freeing the entire sac, is the injury to which the surrounding parts, particularly the testicle, are exposed in the necessary handling which must be called for in the tedious dissection for the dislodgement of the sac, in many cases at least. The latter I think constitutes a very grave objection. I have seen one case of suppurative orchitis follow this procedure. It prolongs the operation and makes it more difficult. The advantage in opening the sac is to satisfy ourselves that its contents are all reduced, also not to return any of the contents to the abdominal cavity in a condition that could favor internal strangulation. Not to open the sac, even if the contents have seemed to have been entirely reduced, I look upon as a dangerous and unwise course to take, particularly as with the advantages of aseptic surgery we are not exposing our patients to any additional risk. By this latter means we cannot be certain that we have completely reduced all the contents, having to rely upon our sense of touch, which we must admit is not nearly so reliable as when we have inspected the interior of the sac.

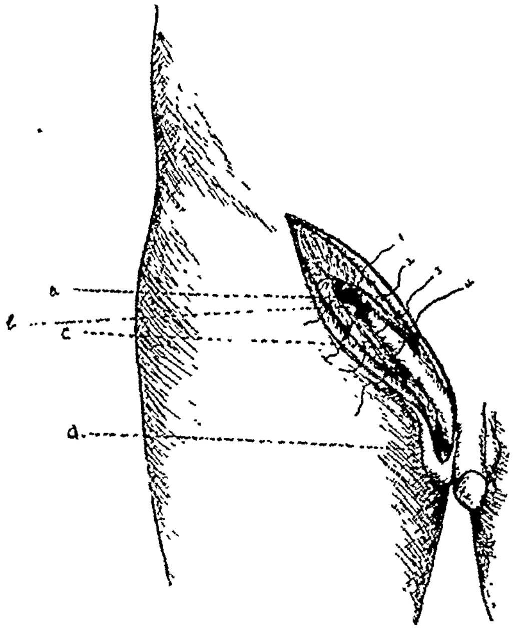

FIGURE 1.—Deaver's Hernial Operation, showing primary and secondary incisions. a, sac of hernia cut and retracted into internal ring, anchored by deep suture 1; b, spermatic cord, etc.; c, sac of hernia, divided from peritoneal portion and lying in the exposed inguinal canal; d, testicle. 1, 2, 3, 4, deep sutures in the divided coverings of inguinal canal. (Drawn by Allen J. Smith, M.D., of Philadelphia.

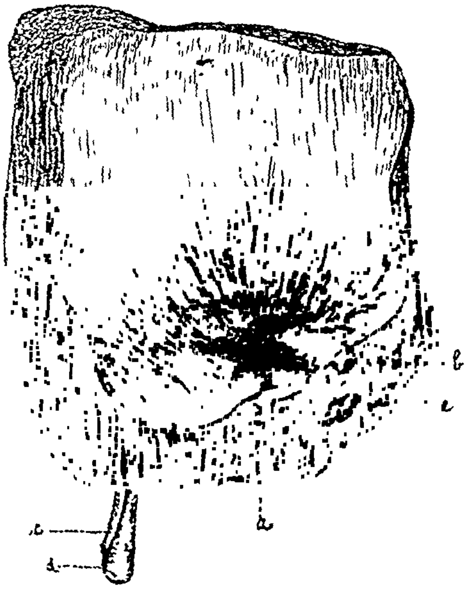

FIGURE 2.—Deaver's Hernial Operation (peritoneal surface). a, point of retraction of sac at internal ring; b, spermatic cord, etc.; c, sac of hernia; d, testicle, e, femoral vessels. (Drawn by Allen J Smith, M.D., of Philadelphia)

The presence of the sac in the lower part of the canal acts as a plug, it being reinforced by the products of inflammation necessary for the repair of the wound, therefore I consider that the sac when left in the canal offers a better result, both where the sides are brought into apposition by deep and superficial sutures, also when the canal is packed. Mr. Macewen believes that the sac when left acts as a plug, and tends to widen instead of obliterating the canal, and thus prevents the pillars of the external abdominal ring from coming in direct apposition. It is not the efforts we spend upon the lower part of the canal that prevents the return of the hernia, but upon the sac and the upper portion, where we bring in apposition muscular tissue, as well as the skin and fascia, between which we expect firm union. Does the fundus of the sac when left undisturbed undergo inflammation to the extent of producing suppuration? It may. I have had this to occur in one case; here I think it proved to be rather an advantage than otherwise, a firmer cicatrix being left. Considering the question of support at the expiration of the time when the patient is able to get up I have always thought it better, and it has been my practice not to use any. The presence of a compress or truss must excite more or less absorption, thus weakening the parts.

The question of attempting a radical cure of hernia depends on the following points as mentioned by Barker: First, whether the procedures employed are devoid of risk; second, whether they are simple, easy of execution, and capable of wide application; third, whether they fulfil the objects for which they are designed.

What class of cases render the operation for the radical cure justifiable: first, those in which the hernia is complete and the external ring is so large as to make it difficult, if not impossible to apply a truss that will hold the rupture; second, where the hernia is irreducible, this being a form in which it is difficult to obtain a truss to fit accurately enough to prevent the escape of a new portion of the gut, thus exposing the subject to the constant risk of strangulation. In this latter form of hernia the hernial orifice cannot well be other than always more or less patulous. In all cases a hernia is a grave infirmity and exposes the patient to constant danger. This danger, however, providing the hernia can be properly retained by a truss is comparatively slight, if proper care be given to the management of, the truss. The inconvenience of an ordinary reducible hernia is that it prevents the subject from taking part in athletic sports; it is also a bar to his entrance into public service without incurring a certain amount of risk. The age of the patient and the size of the hernia should also influence us in deciding upon the radical cure. If the patient is past seventy years, and unless he be of a remarkable physique, with good heart and kidneys, I think it injudicious to advise any interference. Where the hernia is a very old and large one, the abdominal cavity must necessarily have contracted more or less, and, as a consequence, the sudden return of the contents of such a hernia might in itself prove serious. In cases of this character, I would think it well to have the patient in bed some days before the operation with the hernia reduced and retained by means of a large pad and bandages, thus educating the abdominal cavity to the presence of this additional mass and thereby lessening the shock of the operation and favoring an uncomplicated recovery. Patients who suffer from chronic bronchitis, also those who have large flat and flabby belly walls, particularly if advanced in life, are not favorable cases for this operation. In performing the radical cure where the hernia is of the congenital variety we can dispose of the sac in one of two ways; the first is to do as I did in one of the cases I have reported (the way also recommended by Macewen) to divide the sac across in the canal taking care to preserve the spermatic cord, then splitting it longitudinally and behind when the upper portion can be either tied or sutured and the lower portion closed by suturing, thus making a new tunica vaginalis for the testicle. Another way to dispose of it is after opening the sac, to remove the testicle, when it can be treated in the same manner as the sac in acquired hernia.

Case 1. Congenital Hernia.—April 20, 1887, I was asked to see J. A., aged 33 years, a patient in the medical wards of the Philadelphia Hospital, who was suffering from a painful scrotal tumor of the right side which upon examination proved to be a strangulated inguinal hernia. I advised operation but the patient would not consent to this until the following day, when he was transferred to my wards, hurriedly prepared, ether was administered and I proceeded to relieve the strangulation. The sac was exposed throughout and opened, when the hernia was found to be of the congenital variety. The constriction which was in the neck of the sac was relieved and the contents reduced. I disposed of the sac in the following manner: I divided it across in the canal, taking care to preserve the cord. The upper portion I split behind longitudinally, thus allowing me to push the cord out of the way when with a strong catgut ligature passed around I tied it off, in this manner closing the peritoneal cavity; the edges of the lower portion were approximated by a continuous catgut suture, making a new tunica vaginalis. The sides of the canal were brought together by two sets of interrupted catgut sutures, the first, and deep set passing through the aponeurotic and muscular tissue down to the floor of the canal, the transversalis fascia, and the superficial set passing through the skin and fascia. Catgut drain was introduced into the bottom of the scrotal wound, the sides and edges brought together by interrupted catgut sutures. The patient made an uuinterupted recovery; was kept in bed six weeks.

Case 2.—Aug. 4, 1887, I operated on Mrs. M. for my friend Dr. E. H. Steer. She was suffering from a strangulated femoral hernia of the right side. The sac was exposed and separated throughout after a careful and somewhat tedious dissection; when the sac was opened the contents were found to consist of omentum and small intestine. The former was strongly attached to the wall of the sac by old adhesions; the bowel was free elsewhere except at the neck of the sac, the seat of the constriction, and very dark in color. I next introduced a hernia knife between the neck of the sac and Hey's ligament the seat of the constriction, dividing the latter; this permitted me to draw out the small intestine until I exposed healthy gut. The discolored intestine was treated with a hot towel while I proceeded to separate the omentum, tying it off with catgut ligatures and cutting away all that portion presenting within the sac; this I accomplished with but little trouble. The stump of omentum was returned to the abdominal cavity after which the small intestine having recovered itself, was likewise returned; the neck of the sac was tied with a strong catgut ligature, close up to the femoral ring and cut away. Either end of the ligature surrounding the neck of the sac was threaded with a curved needle; the needle carrying the inner thread was passed from within outwards through Gimbernat's ligament, and the one carrying the outer thread passed in the same direction through the upper and outer margin (the superior falciform process) of the saphenous opening; the ligatures were drawn out from the needles and tied securely, in this way engaging the stump of the sac within the femoral ring. Catgut drainage was introduced into the bottom of the wound, the divided cribriform fascia brought together with interrupted catgut sutures, also the skin and the superficial layer of the superficial fascia. Wound was dressed antiseptically.

Case 3.—C. R., aged 39 years, was admitted to my wards in the Philadelphia Hospital with a double complete reducible inguinal hernia. The patient was not able to keep the herniæ up with a truss, having tried various kinds. I advised the radical cure, to which he gladly consented. Having been thoroughly prepared, June 26 I performed Barker's operation upon the left hernia only, with the modification of the introduction of the sutures for bringing together the walls of the canal which I have described. The very much thickened sac as I supposed, was exposed throughout the inguinal canal. I opened the sac a short distance below the internal abdominal ring, finding its contents to be intestine and omentum, both of which were adherent at points to the inner surface of the sac. The adhesions were carefully tied with catgut and separated, when I was able to complete the reduction. The next step was the passing of the ligature beneath the neck of the sac to the proximal side of the opening made in it. In making traction upon the sac in order to tie up as close to the internal ring as possible, I was especially struck with the thickness of the outer wall. This I examined very carefully and could not satisfy myself that it was anything else than the sac, therefore I proceeded to tie the ligature and divide it, when I found I had tied off and divided a double sac. I completed the operation in the usual way. Not feeling satisfied with my work I paid a visit to the hospital in the evening, when I learned that the patient was having a great deal of pain referred to the region of the bladder and a frequent desire to urinate, but with inability to pass urine; was very restless, and had an anxious expression. My resident physician, Dr. Preston, told me he had passed the catheter but was not able to draw off any urine. I passed a soft rubber catheter into the bladder, introducing my finger into the rectum to make sure it had entered the bladder. No urine passed. I then placed the point of my finger over the mouth of the instrument and withdrew it, when after removing my finger from the end of the catheter about a drachm of pure blood escaped. I was now convinced that this condition was due to one of two things, either that the supposed second sac met with at the operation was a vesicocele of the inguinal variety, and that I had cut away a portion of the bladder, that part included in the ligature having slipped from its grasp, thus establishing a communication between the bladder and the abdominal cavity into which the urine was escaping; or, that the patient was suffering from suppression of urine. The latter I was rather doubtful to believe, as the examination of the urine made before the operation did not show any kidney lesion. Yet upon second thought I could not see why, if I had included the bladder I was not able to recognize it at the time of the operation, therefore, directed my treatment for suppression. The following forenoon again saw the patient and found him in collapse. I immediately prepared to do laparotomy believing that the bladder had been wounded. The patient being etherized, became almost pulseless due to the depression of the ether, he being already in a much depressed state; nevertheless, I quickly opened the abdominal cavity in the linea alba between the pubes and the umbilicus, introducing the index and middle fingers of my left hand, and with my right hand passed the catheter into the urethra, when I could feel very clearly the point of the instrument free in the abdominal cavity to the left side of the bladder, thus demonstrating that I had mistaken the prolapsed portion of the bladder for a thickened hernial sac, it being closely attached to it, and that I had opened it. In the abdominal cavity there was quite a collection of fluid, which when sponged out proved to be bloody urine. All that was left for me to do was to repair the wounded organ and wash out the abdominal cavity, this I was not able to accomplish as the patient died in a few moments.

Case 4.—James E., aged 46 years, was admitted to my wards in the Philadelphia Hospital, during the summer of 1888, with a complete reducible inguinal hernia of the left side. On July 4 I performed the radical cure. The patient made an uninterrupted recovery and at the end of six weeks was allowed to get up and go about the wards without any support.

Case 5.—Patrick C., aged 45 years, was admitted to my wards in the Philadelphia Hospital, during the summer of 1888, with a complete and reducible oblique inguinal hernia of the right side. Operation for the radical cure was done July 8, 1888. Contents of hernia consisted partly of intestine but largely of omentum, the latter being tightly adherent to the sac. Exercising great care, after considerable trouble I succeeded in freeing the omentum which I tied off with catgut ligatures, cutting it away and returning the stump to the abdominal cavity. I completed the operation in the usual way. The patient made an uninterrupted recovery and was allowed to get up and go about the wards at the end of six weeks without any support.

Case 6.—James D., aged 28 years, was admited to my wards in the Philadelphia Hospital July 26, 1888, from the Insane Department where I was asked to see him, being told that he had a hernia which had come down the night before and could not be reduced, that the patient was suffering great pain, was sick at the stomach, and that his bowels had not moved for three days. An ice-bag had been applied to the hernia, enemata administered, and taxis attempted, without success. The patient had had two or three attacks of a somewhat similar kind but the hernia had always been reduced by taxis; he had been provided with one or more trusses but would not keep them applied. I advised that he be etherized and the radical cure be done under the circumstances even if I should succed in reducing the hernia. The patient was hastily prepared, being given a sponge bath of boracic acid solution, and the field of operation washed and thoroughly asepticised. Ether administered, I applied taxis, reducing the hernia in a few minutes after which I did the radical cure. The case was a simple one there being no trouble in separating the neck of the sac and not finding any adhesions between the sac and its contents. He made an uninterrupted recovery, was kept in bed six weeks, at the end of which time he was sent back to the insane department well, being allowed to go without any support.

Case 7.—F. G. K., a German aged 28 years, was admitted to my wards in the German Hospital August 15, 1888, with a very large complete inguinal hernia of the right side. August 17 I did the radical cure. The sac was freely exposed in the inguinal canal and was found to be very much thickened and most intimately adherent to the surrounding parts. The sac was separated and opened and the contents, consisting of intestine and omentum reduced, after separating the omentum and tying off and cutting away a portion adherent to the sac. The remaining part of the operation consisted in tying off and dividing the neck and fixing the stump of the sac in the internal ring and suturing the canal with deep and superficial sutures. In this case the fundus of the sac suppurated and the patient was confined to bed for twelve weeks when he was allowed to be up without any support. Since his recovery he has been employed at the hospital doing manual labor.

Case 8.—Neil McL., aged 55 years, was admitted to my wards in the Philadelphia Hospital in the summer of 1888 with a large complete oblique inguinal hernia of the right side. September 17, 1888, I did the radical cure. I met with no difficulty until I opened the sac when a number of adhesions attaching the bowel to the sac were exposed, which were long enough to admit of complete reduction of the bowel. These I tied off, close up to the bowel, separating them from the sac, and cutting away the free portion. The operation was completed in the usual way. The patient made an uninterrupted recovery, was kept in bed six weeks, at the end of which time he was allowed to get up and go without support.

Case 9.—Joseph P., aged 58 years, was admitted to my wards in the Philadelphia Hospital in the summer of 1888. On September 23, 1888, Mr. Anandale, of Edinburgh, Scotland, who was on his way home from attending the Congress of American Physicians and Surgeons, in Washington, kindly agreed to operate for the radical cure of hernia in the presence of a number of my medical friends. Mr. Anandale exposed the sac throughout, carrying the incision from the upper part of the canal to the base of the scrotum. With considerable difficulty the sac was freed, the adhesions between it and the tunica vaginalis being very firm, calling for considerable handling of the testicle which Mr. Anandale said was not objectionable. The sac was opened and the contents, which were adherent at all points, were reduced after the separation of the adhesions. The sac was now tied off with a long catgut ligature close up to the internal abdominal ring, and all that portion to the distal side of the ligature was cut away. With either end of the ligature threaded, the walls of the canal were brought together. The wound healed up without any suppuration. Unfortunately the testicle became very much inflamed, resulting in an orchitis which suppurated, requiring openings and counter-openings and the introduction of drainage; notwithstanding all the possible care which was exercised the patient died from septicæmia.

Case 10.—Wm. H. S., aged 25 years, was admitted to my wards in the German Hospital on the evening of November 26, 1888, suffering from a left inguinal strangulated omental hernia which occurred on Friday, November 23, three days before admission to the hospital. The patient stated that the tumor had made its appearance suddenly, and that he had not had a hernia before this accident.

When admitted he was in a state of collapse, with a temperature of 96° F., a feeble and rapid pulse. He had a bowel action on the day of the accident, and not again until the day of admission into the hospital when he had several thin passages.

The swelling was tense, painful and red, giving no succussion on coughing. He had vomited several times since the day after the accident, the matter vomited when examined proved to be only of a bilious nature. He was troubled constantly with hiccough.

To my mind the subjective symptoms presented here, together with the presence of an irreducible tumor at one of the hernial orifices, which tumor had made its appearance suddenly, were those of strangulated hernia. Notwithstanding the looseness of the bowels a symptom in this case, I felt convinced that all the trouble was attributable to the hernia, and particularly so as the patient was very much depressed. It is true that these symptoms could have been caused by a gastro-enteritis, yet I do not think that there is any surgeon who would not have advised the course which I pursued, viz.: to explore and be governed by the result of the exploration. I have seen cases of acute adenitis, particularly of the glands in the cribriform fascia, where the patients gave the history of the tumor having appeared suddenly, and following straining efforts, also where there was sick stomach and constipation. These are cases which simulate hernia, and in which, it may be impossible upon our first visit to make a positive diagnosis, but where, I think, other things being equal, it is advisable to cut down, and if a hernia be found, to operate; or if enlarged glands, to remove them. I have seen cases of strangulated hernia where the patient had several loose passages from the bowels after the occurrence of strangulation, therefore I do not think that we should always expect to meet with the opposite condition, that of constipation.

An incision was made over the line of the tumor, which included the upper part of the scrotum, and the different layers of tissue divided until the sac was reached. Upon opening the sac the contents were found to consist of the geat omentum, the transverse colon presenting at the sac. The lower part of the omental mass was in contact with the testicle and separated from the upper portion of the mass by a partition extending across the tunica vaginalis. In other words, this was a case of congenital hernia into the funicular portion of the tunica vaginalis with perforation of the septum closing the tunica vaginalis.

The omentum being in a questionable state I tied it with catgut ligatures and cut it away; my experience has taught me that where the omentum has been out for any length of time, and where it is adherent to the sac, whether strangulated or not, it is best to treat it in this way. In cases of irreducible omental hernia complicating a recently strangulated gut, where I have separated adherent omentum from the sac in exposing the gut, after having relieved the strangulated bowel and having reduced the omentum, to my disgust at the autopsy, I have found what appeared to me to be healthy omentum at the time of the operation, gangrenous; while, on the other hand, I have had no ill effects by cutting it away.

Case 11.—Thomas R., æt. 50 years, was admitted to the German hospital Dec. 3, 1888, with a complete oblique inguinal hernia of the right side; hernia first noticed twenty-four years ago. Patient has never been able to wear a truss that would hold the hernia up satisfactorily, or that would not cause a great deal of pain; December 8, I performed the radical cure. Sac was exposed throughout the inguinal canal, to the contents of which it was most intimately, adherent, calling for great care in separating it. Sac opened and a large piece of omentum, which was adherent to the inner wall of the sac, separated and tied off with catgut sutures, when the stump with the intestines composing the contents, were reduced; patient made an uninterrupted recovery, and at the end of six weeks was able to get up and go about without wearing any support. June 20, six months after the operation, the patient came to my office, when I learned that the last of the four of the deep set of sutures had come away. The first of the four sutures commenced to annoy the patient by ulcerating its way through the surface four weeks after leaving the hospital, since which time the others have come out in succession. This has been a great source of annoyance as well as inconvenience to the patient, but notwithstanding, he has been able to go on with his work, that of Street Car conductor. Examination of the site of operation shows conclusively that the hernia is returning, therefore, I have had made a light spring truss with flat pad, which the patient wears with great comfort.

In the event of the hernia attaining any size, and the patient not able to hold it up with a truss, I will advise a second operation, when I will dispose of it after the manner of McBurney.

Case 12.—Wm. P., æt. 75 years, was admitted to the St. Mary's Hospital Jan. 15, 1889, under the care of my colleague, Dr. W. W. Keen, with a large and complete inguinal hernia of the right side. It was found impossible to hold this rupture up by any form of truss several having been tried. The patient becoming very despondent at not being able to have it kept up, begged Dr. Keen, and afterwards myself to operate. After further trial with trusses, under Dr. Keen's and my own supervision, we told the patient that if he still insisted upon operation that it should be done.

February 6, 1889, I performed the radical cure after my usual manner, that of tying and dividing the neck of the sac, fixing latter at the site of the internal abdominal ring, and suturing the canal with a deep and superficial set of aseptic silk sutures. Patient died February 13, not from any active trouble, such as peritonitis, obstruction of the bowels or septicæmia, but from general debility. The result of a profound atheromatous change in the patient's arteries, the circulation was very defective, and at the expiration of five days after the operation, gangrenous points were present in the abdominal walls, also in the scrotum. An autopsy made twelve hours after death, for a two-fold purpose, first to learn the cause of the death, and secondly to secure dissection of the abdominal walls including the field of operation. Examination of the abdominal and thoracic cavities proved negative, the heart and main vessels were markedly atheromatous. The inguinal canal was carefully examined and found to be entirely occluded, as shown by these drawings, the union of the wound was perfect. These drawings show how beautifully the canal is occluded after this operation, also the presence of the neck of the sac at the site of the internal ring.

Case 13.—James Mullen, aged 48 years, was admitted to St. Mary's Hospital March 2, with an incarcerated oblique left inguinal hernia, which was rendered reducible by rest in bed, small and repeated doses of castor oil, with enemata of soap suds and spirits of turpentine.

This not being the first time the patient had suffered from temporary irreducibility of his hernia, I suggested that he let me do the radical cure. March 17, 1889, I operated, meeting with no complications. Was discharged wearing no support.

Case 14.—May 10, 1889, I operated on Wm. S. C., aged 20 years, medical student, for the radical cure of a small complete inguinal hernia of the right side, doing McBurney's operation, with the exception that I did not remove the fundus of the sac. The sac was very easily separated, when it was opened and tied off well within the margins of the internal abdominal ring with aseptic silk and divided. During the first forty-eight hours following the operation the patient complained of a great deal of pain in the region of the kidneys, severe enough to prevent him from resting. He was not able to pass water, and was therefore catheterized, when the urine was found to be small in quantity and bloody. Dry cups were applied to the back with warm applications, and non-stimulating diuretics given internally. At the end of this time the patient was entirely relieved of these symptoms, after which he made an uninterrupted and uneventful recovery.

Case 15.—June 3, 1889, I was asked by Dr. Hurtzel to see Mrs. S., aged 62 years, suffering from a strangulated femoral hernia of the right side. Patient had been etherized two days previously by another physician and taxis applied, but was not able to reduce the hernia. On the morning of June 3, Dr. Hurtzel, her family physician, was sent for and, upon his arrival, attempted taxis without ether, but failed to make any impression upon the hernia. The patient had presented all of the subjective symptoms consequent upon this trouble, but her general condition was good. We advised an operation, to which the patient agreed. Patient was given a sponge bath of boracic acid, the field of operation was shaved, thoroughly cleansed and rendered aseptic. Ether being now administered, I proceeded to relieve the strangulation. The sac was exposed and the neck cleared; fundus of the sac gangrenous, and slightly adherent to the contents. With a hernia knife I relieved the constriction by dividing Hey's ligament. I next opened the neck of the sac, when the contents proved to be intestine and omentum, which were slightly adherent to the sac, but very readily detached without occasioning bleeding. The gut was discolored, but not gangrenous; therefore, the contents were returned to the cavity at once. The sac was now separated up to the femoral ring and pulled down slightly, when it was tied off with a strong catgut ligature and the portion of the sac to the distal side of the ligature cut away, thus allowing the pedicle to slip back within the abdominal walls. I removed the sac for a two-fold purpose; first, to get rid of all that part which was gangrenous, and secondly, to enable me to perform a radical cure. The opening made in the sheath of the femoral vessel was closed with catgut sutures. The next step consisted in bringing the pubic and iliac portions of the fascia lata, with the overlying cribriform (deep layer of the superficial fascia), together with strong, heavy catgut sutures. Beneath these sutures I placed three strands of catgut drainage, the skin and superficial layer of the superficial fascia were brought together with silver wire, and the wound dressed antiseptically. Patient made an uneventful recovery; was advised to remain in bed for five weeks, when she was told she could go around without wearing any support.

THE SANITARY DISPOSITION OF THE DEAD.

Read in the Section of State Medicine at the Fortieth Annual Meeting of the American Medical Association, June, 1889.

BY C. A. HARVEY, M.D.,
OF NEW YORK CITY.

The problem "What disposition shall be made of the dead?" as it confronts us from a sanitary stand-point, is one around which gather very great and important interests and not a few difficulties. Ever since men became gregarious this problem has had its sphere of more or less importance. If it has long failed of recognition, through the inattention, lack of reflection or stupidity of men, the fact of the importance of the problem has existed all the time.

To the honor of the American Medical Association, it should be remembered that some of its prominent members took advanced ground at quite an early day, upon a more sanitary way of disposing of the dead than that of inhumation. At the meeting of the Association in New Orleans five years ago, a committee was appointed to consider the subject of cremation of the dead, and report at the next annual meeting. Dr. James M. Keller, of Arkansas, was made Chairman of that committee, and read his report at the meeting in St. Louis, May 6, 1886, in which he says, "we believe that the horrid practice of earth-burial does more to propagate the germs of disease and death, and to spread desolation and pestilence over the human race,' than does all man's ingenuity and ignorance in every other custom or habit. Towards the conclusion of his report he adds: "The grave-yard must be abandoned. The time has come for us to face squarely the problem, how to dispose of our dead with safety to the living. And your committee has an abiding faith that you will earnestly, and at once say, that the earth was made for the living and not for the dead, and that pure air, pure water, and pure soil are absolutely necessary for perfect health. Only sceptics deny that the dead do poison these three essentials of human life." The Association, not yet fully prepared to recommend the adoption of cremation, resolved that "the report with its conclusions be referred to the Section on State Medicine." At the meeting held in Chicago, June, 1887, the committee on cremation presented another report which was again referred to the Section on State Medicine. It does not appear, from an examination of the Society's Journal, that any further report was made at its meeting last year. And therefore the matter is still in the committee. So that in discussing before this Association to-day the question of the sanitary disposition of the dead, I speak to those who are not only prepared to listen, but to a highly intelligent and scientific body, who are ready to lend their indorsement to that method which may be demonstrated to avoid all the objections which lie against others, which will meet all sanitary demands, and will also have respect to those delicate and fondly cherished sentiments which a Divine Father has implanted so deeply in the hearts of his children.

The great and urgent need of an immediate sanitary reform in the disposition of our dead is, even yet, comprehended in any measure, by but very few. The masses, the *hoi poloi*, have no thought whatever of any such necessity. Hence, the few who are coming to take alarm at the situation must think and act for the many. In all thickly populated and long settled districts the dead outnumber the living. And the longer the practice of burying goes on the greater will be the proportion of those beneath the ground in comparison to those above it. All the time the dead are increasing in numbers far beyond the living. So that the oft heard expression "Gone to join the majority" is more true than poetic. Could two pictures be drawn, one showing the activity of life and all human experience on the surface, and the other depicting all that which is but from two to six feet beneath the life-teeming surface, that vast charnel-house, with the slow progress of decay in every stage, sloughing of decomposing bodies, the oözing from coffins poisoning the surrounding earth, and borne by percolation into underground water courses which feed the neighboring wells, or which issue into water-sheds like that of the Croton—in which are eighty-three cemeteries—storing in congenial soil the germs of disease, which will sooner or later, in many cases, come to the surface with epidemic-scourging; and much more, that is too disgusting to mention, could these pictures be drawn true to life and death, and placed side by side, what contemplation, what reflection would they awaken! not to speak of the shock which the contrast would produce!

Says the eminent surgeon and physician, the late Dr. Samuel D. Gross: "If people could see the human body after the process of decomposition sets in they would not want to be buried. It takes a human body fifty, sixty, eighty years, yes, even longer than that to decay. Think of it! The remains of a friend lying under six feet of ground, or less, for that length of time, going through the slow stages of decay, and other bodies all this time being buried around these remains. Infants grow up, and pass into manhood and womanhood; grow old, and get near the door of death; and during all that time the body which was buried in their infancy lies a few feet under ground in its sickening state, undergoing the slow process of decay."

The cemeteries of the city of Brooklyn occupy nearly 2,000 acres of land. An eminent physician gives it as his opinion that the prevailing wind blowing over these corruption festering plague spots, carries the germs of typhoid fever and diphtheria to Flatbush, and swells the death-rate of that community to its present alarming magnitude.

According to the report of the French Academy of Medicine, "The putrid emanations of Pere-la-Chaise, Montmartre, and Montparnasse have caused frightful diseases of the throat and the lungs, to which numbers of both sexes fall victims every year." "Thus a dreadful throat disease which baffles the skill of our most experienced medical men, and which carries off its victims in a few hours, is traced to the absorption of vitiated air into the windpipe, and has been observed to rage with the greatest violence in those quarters situated nearest the cemeteries."

It is said that Professor Selmi, of Mantua, has discovered in the strata of air which have remained during a calm for a certain period of time over a cemetery, organisms which vitiate the air and which are dangerous to life. This was proved after several experiments. When the matter in question was injected under the skin of a pigeon a typhus-like ailment was induced, and death ensued on the third day." Experiments prove that these mephitic gases will rise to the surface through eight or ten feet of earth, and that there is practically no limit to their power of escape. In a grave-yard at Stuttgart, in which only 500 bodies were interred yearly, and not more than one in a grave, the north-west wind rendered the emanations from the dead perceptible in dwellings 800 feet distant.

It is related that a grave-digger in Italy named Pisto, went into a vault to steal the shoes from a corpse, when he was overcome with the poisonous gases and met with instantaneous death, falling on the dead body. Unger relates the case of a grave-digger going into a vault in Madrid for the purpose of disposing of another corpse, who fell down dead. Two other men who tried to save him were likewise overcome and died.

Cases similar to the above are very numerous, and have doubtless been met with in the reading of every member of the Association. The usual symptoms of the poisons are faintness and giddiness, and often suffocation. Sir Spencer Wells says that, "decomposing human remains so pollute the earth, the air, and the water, as to diminish the general health and average duration of human life." Dr. Playfair says that "the inspiration of grave-yard gases, entering the blood produces fever; communicated to the viscera, it gives origin to diarrhœa; and may be the cause of consumption."

While ammonia and offensive putrid vapors are given off from bodies decomposing in graves, carbonic acid, which makes cemetery gases so dangerous, is the largest product. Pasteur has published within a few months an account of experiments he and some assistants have recently made with the soil on the tops of graves. He claims that living germs from decaying bodies reach the surface; that animals inocculated with these germs show all the symptoms, and die of the disease which proved fatal to the occupant of the grave. These germs, as well as the poisonous gases, so permeate and pollute the soil, that they find their way into the underground water-courses, and pollute much of the water used for domestic purposes. The Croton water-shed, in which there are 183 cemeteries, large and small, is a conspicuous example. Who can wonder that those who have even a slight conception of the unsanitary horrors of inhumation should bound to the opposite extreme cremation? and, not *knowing of any other method, should* prefer burning to burying? But, granted a method quite as sanitary as cremation, and yet in perfect consonance with the delicate sentiment, which demands for the departed dead the greatest reverence and respect, would it not be very acceptable? The most enthusiastic cremationist is a sanitarian. If, then, his demand for a sanitary disposition of the dead is as fully met by another method, which to the vast majority of people will be, for many good reasons, more acceptable, will he not be more than willing to aid in its adoption? The sanitarian will not object to being a humanitarian as well. But the mere Dictum, on the part of anybody, respecting the possibility, and even feasibility of such a plan, must, naturally enough, be taken *cum grano salis*. But, were it not so, it would be unfair to impose on anybody's credulity, or to expect the acceptance of a postulate without providing good and sufficient data.

Very happily in this instance, such data is at hand. Experiments in the desiccation of human bodies have been going on for the past two years. In a laboratory connected with one of the medical colleges in New York, an apparatus has been prepared for carrying on these experiments in an exact scientific manner. The result is procured by the use of dry air. Air-tight boxes of galvanized iron are used. After placing a body within, a glass top, the length of the box, is sealed on. At one end of the box is an induction pipe, at the opposite end a conduction pipe.. The atmosphere is rendered anhydrous by the use of calcium chloride. After the humidity is extracted the dry air at once enters the box and comes in contact with the body, then passes on to a flue and through a large gas flame which is kept burning therein. A record is made three times daily of the hydrometer, at the point where the atmosphere enters the outside induction pipe; also of a second hydrometer placed at the point where the air is dryest after passing over the calcium chloride, also at the point of entering the box; and of a third hydrometer placed in the conduction pipe at a point beyond the cadaver, recording exactly the amount of moisture the air has absorbed from the body in its passage. At a more remote point in the conduction pipe an anemometer is placed showing the velocity of the air current; which current can be regulated from one hundred feet to eight hundred feet per minute, as desired. But this is only a temporary apparatus, and cannot, therefore, embrace the conditions which a properly constructed Mausoleum will contain, and some description of which must be given in order to gain any clear or correct conception of the sanitary system of the desiccation of the dead. It is needless to remark that this method is an entirely new departure from any heretofore employed for disposing of the dead. It avoids all the loathsome and revolting features of earth-burial, with its endless train of unsanitary evils, and dangers through poisoning the air, earth and water, and the storing of disease-germs liable to break out in epidemics; avoids the dangers of the unsanitary tomb, and also avoids the shock to the delicate sentiment, which shudders at the thought of the destruction of the remains of loved ones by fire; it avoids the medico-legal objection to the destruction of the evidences of crime, and is even more perfectly sanitary than the process of cremation. The tissues are deprived of moisture, leaving them in a state of complete preservation. A condition which renders a critical examination and a chemical analysis of them, at any time, a very simple and easy matter.

A great number of sepulchres are constructed together in one grand Mausoleum. The sepulchres are formed of concrete, in rows and tiers, similar to the vaults in a safe deposit bank; except where family groups or clusters are specially arranged, with sitting-rooms or parlors adjoining them. These sepulchres are to be constructed in large, magnificent and elegantly appointed Mausoleum buildings, much finer and grander than any the world has heretofore known. They may be built after any style of architecture, Egyptian, Corinthian, Renaissance, Romanesque, or in less classic forms. A building one hundred feet square will contain ten thousand sepulchres. One three hundred feet long by one hundred wide, will contain thirty thousand, or a number equalling the usual allowance for a cemetery of some ninety acres. Thus, showing a great economy in space, which is so valuable near large cities. These buildings are to be constructed of concrete throughout except the outer walls, which may be of granite, brick, vitrified brick, blocks of glass, blocks of slag, or of any time-proof and indestructible material. The sepulchres have one opening, which fronts a corridor, for admitting the body; and, when that is placed within, a plate-glass front is hermetically sealed into that opening, and this is again covered with a marble or metallic door and made secure. There are conduits formed in the concrete, which bring dry air into the sepulchres at one end, and others which take it out at the opposite end. The air, as it passes out is no longer dry, but is laden with gases and moisture which it has absorbed from the bodies, and is now borne through conduits to a furnace, located in an annex adjacent to the mausoleum, where it passes through the fire and is purified; so that no deleterious gases or offensive odors can ever escape into the atmosphere. The air which is drawn into and passes through the sepulchres is first rendered anhydrous in a large drying room into which it is forced, and from which it is distributed to the sepulchres, where it absorbs the moisture from the bodies in its passage. By this process a steady current of dry air is pouring into and through the sepulchre, and doing its work most efficiently on its way.

Very few persons, even among chemists, are fully aware of the marvellously absorbing power of absolutely dry air, and the greedy avidity with which it seizes and appropriates moisture. When a moderate current of such air envelopes a human body in an air-tight sepulchre, constantly drawing the moisture out of the body and bearing it away, the dry air flowing in as the moisture-charged air and gases are drawn out, the process of desiccation goes steadily and rapidly forward until it is accomplished, which is done in about four months.

After the work is finished the conduits are closed. As dry air only can be in the sepulchre at the time it is closed, and as the sepulchre is hermetically sealed, and therefore, atmospheric air cannot reach the now desiccated body. Here it will repose in security and cleanliness thereafter. The body of a man who died one year ago is now lying in an apparatus at the New York University Medical College in a complete state of desiccation. Another body of an adult is now undergoing desiccation in a similar apparatus, the process having been commenced eight weeks ago.

Having witnessed experiments made in Washington, D. C., Dr. A. Y. P. Garnett, formerly President of this Association, in answer to an inquiry from New York, writes:

> WASHINGTON, D.C., April 14, 1888.
>
> *Dear Sir:* Your favor of the 12th has been received. In reply I take pleasure in saying, that I have had an opportunity of witnessing the experiment of desiccating a human body, and feel persuaded that the invention for that purpose is destined to prove one of vast importance. The principle upon which it is constructed is one of scientific accuracy, and has been reduced to a practical fact, so far as I can see. I do not hesitate to pronounce the scheme a positive success. A. Y. P. GARNETT.

Some of the most eminent American Jurists have already given, privately, the opinion, that should incineration threaten to become a prevalent mode of disposing of the dead, statutes would have to be enacted inhibiting it, because of its absolute destruction in many cases of the evidences of crime. Not alone in the cases of poisons, but of malpractice and of assault, in every diversity of form. It may be replied that a competent board or commission could be provided for, who should make an examination into the cause of death in every case, and thus meet the legal objection raised. But due reflection must show the fallacy of such a suggestion. For, as will be admitted by every practitioner, though the symptoms and manifestations may seem to point directly to certain causes of death, the unmistakable cause can not, in a vast number, if not in a majority of cases, be absolutely and infallibly known without a complete autopsy.

The almost insuperable objections and embarrassments in the way of such a practice as that, are too apparent to be seriously considered by thoughtful minds. Therefore it would seem to be quite impracticable.

I have intimated that this system may be even more sanitary than cremation.

When Abraham buried Sarah in the field at Machpelah, the question of sanitation was not raised. But when in 1843, the elder Chadwick, and others with him in London, began their investigations of the very unsanitary manner in which the dead of that great metropolis were disposed of, the question of sanitation, which was raised, imperiously demanded public attention, and the passing of statutes to regulate it.

So, when at Washington, Pa., or at Fresh Pond, L. I., two or three bodies are burned a month, the question of sanitation as the accompanying result of the burning is not raised. But let burning become the one means for disposing of the dead, and the situation would be greatly changed. Suppose New York City with its suburbs, where the deaths are said to number near 75,000 annually, were to employ no other means, this would require the burning of about 230 bodies daily. At an average weight of 100 lbs. to a body, this would make 7,500,000 lbs. of "green" human flesh to be burned annually, or 33,000 pounds daily. The fumes from a rendering house are voted to be an intolerable nuisance everywhere, and, hence, it is demanded that these and like nuisances shall be far removed from human habitation. But a crematory which should burn the dead of New York, would be nowhere tolerated in the incessant pouring forth of its unendurable odors. The question of sanitation would then become a debatable one between inhumation and cremation. But the process of desiccation burns only the gases and vapours which are drawn from the bodies. The process is a slow one, and, therefore, the escaping products of the bodies are very easily disposed of in the most sanitary manner possible. They are during the whole process under perfect control. Another advantage possessed by this Mausoleum method is the prevention of body-snatching. The building is so perfectly secure and constantly watched that sepulchre robbing is impossible.

An Irish woman had lost her husband. A neighbor went in to lend her sympathy. The widow replied "O t'is hard, indade, but I know where he is o' nights now!" Had she really known the insecurity of the grave, she would not have been so confident.

An electrical device, with wires to be placed in contact with the body, is provided for, so as to prevent entombment alive. I may add, in conclusion, that the expense of sepulture in the new Mausoleum can be made less than that of cemetery burial.

DR. FORMAN, of Philadelphia, said that we shall probably not live long enough to see much reform in this direction, but he wished to say that the danger of contagion from the dead body had been greatly exaggerated. Germs die quickly in our dead bodies. Virchow, for instance, always allows a body to lie a few days after death for this to take place, for there can be no danger of infectious fungus in a body one week after death. Even the danger of infection from small-pox and scarlet fever disappears in a short time.

DR. CARROLL, of New York, said the contagion was often spread not so much from the dead body as from the pall and other fabrics used which served to convey fomites. But, that it is an established fact that disease germs live in the dead body, and propagate themselves in the grave.

DR. BELL, of Brooklyn, thought that the relation to water supply was the important matter. The dead are buried too deep, and the emanations do not pass off above, but below, through the water; in this way he has been able to account for epidemics of typhoid in New York.

DR. HARVEY, in closing the discussion, said that by the method which he advocated the form and features of the diseased were left plainly recognizable for an indefinite length of time; furthermore he reiterated his opinion that unsanitary effects will not result from this plan proposed.

PUERPERAL NEPHRITIS.—DR. COTMAN, at a recent meeting of the Hunterian Society, showed the kidneys from the body of a plethoric woman, aged 40, who had puerperal eclampsia, and died comatose seven days after the birth of her tenth child. A condition of recent inflammation in an early stage was shown, the pyramids being dark and the cortex swollen and soft. She had apparently recovered from the convulsions, and albumen had nearly disappeared from the urine, when the fatal coma supervened.—*Brit. Med. Journal.*

HOARSENESS IN PROFESSIONAL SINGERS, AND ITS TREATMENT.

Read in the Section of Laryngology and Otology, at the Fortieth Annual Meeting of the American Medical Association, June, 1889.

BY CHARLES E. SAJOUS, M.D.

The fact that hoarseness is only a symptom, and, therefore, but one of the manifestations of affections usually considered under general headings, probably explains the limited degree of attention devoted to it as a separate subject in medical literature at large. To this, doubtless, may be ascribed the difficulty commonly experienced by those who, in their efforts to relieve this condition, follow the teaching of their text-books and carry out the therapeutical indications of the affection diagnosed. A wider experience in this class of cases, however, demonstrates that in order to obtain satisfactory results it is necessary to consider hoarseness as an entity having a pathology and therapeutics of its own. As we are to consider in this paper only the class of emergency cases most frequently seen in office practice, and presenting some difficulty in differential diagnosis, all conditions in which a laryngoscopic examination will readily explain the immediate cause, such as tumors, marked paralysis, advanced tuberculosis, syphilis, etc., will not be alluded to.

That hoarseness, to be intelligently understood, should be considered individually, is shown by the fact that although in the majority of cases a mild laryngitis is the immediate cause, yet a large number present no objective symptoms, the vocal bands retaining their pearly hue and the surrounding parts their normal appearance. These cases can not be considered as suffering from laryngitis merely because hoarseness is present, a fact soon demonstrated by the failure of remedial measures calculated to overcome an active inflammatory process.

Although in the class of cases to which this paper is limited, and which represent by far the great majority of patients presenting hoarseness, the integrity of the human voice may be compromised by modifications, superficial or deep-seated, of minutest degree, the pathological process coming into play may be differentiated with comparative exactness when a clear history can be obtained, together with a satisfactory examination of the nasal, pharyngeal and laryngeal cavities.

Unfortunately the microscope can scarce be brought to our assistance to enable us to place our deductions upon a solid footing, the absence of all danger to life rendering it practically impossible to obtain a specimen of the histological changes occurring during hoarseness. Were it even otherwise, and sudden death should occur to a patient suffering from hoarseness, the vascular elements of the specimen of laryngeal muscle, etc., obtained would probably have undergone a certain degree of transformation incident to the disorder which caused death, or to the contraction of capillaries occurring *in articulo mortis*,[1] and thus involve at least an element of doubt as to the reliability of our observations.

An essential requirement for the proper production of sound is absolute integrity of the edges of the vocal bands when they are approximated by the vocal muscles. When the glottis is widely opened the bands are not, as implied by the majority of works on anatomy and in special treatises, "prismatic in shape, having their bases upward," but form, on the contrary, a sort of a hard cushion with a rounded border on each side of the laryngeal cavity. As the muscles come into play the bands gradually lose their rounded shape and their edges becoming sharper at the expense of their base, the prismatic form can soon be recognized, the free edge of each band having become, by this time, especially if a high-pitched note be produced, as keen as the edge of a knife. This keenness is essential, if the purity of the tone is to be preserved; and if, through inflammatory changes of the mucous membrane or its underlying tissues, its outline becomes wavy, nodular, or in other ways deformed, the purity of the voice is proportionately impaired. The ease with which an inflammatory process of any degree may cause hoarseness will be appreciated, especially when we remember that in inflammation the blood vessels, after contracting, dilate sometimes to twice their normal size and increase in length at the same time, while the veins, imitating the arteries, soon follow suit in all but the elongation.[2] Closely allied to alterations of the bands proper, and directly concerned in the production of hoarseness, are those involving the laryngeal side of the interarytenoid space—in other words, the posterior wall of the laryngeal cavity. Inflammation in this locality also offers an impediment of a mechanical character. A greater degree of thickening takes place through the fact of the tissues being comparatively less dense. The contraction of the membrane into folds being thus limited, the imperfect closure of the glottis causes, especially in the high registers, not only hoarseness, but waste of breath through the gap left patent by the non-approximation of the portion of the glottis behind the vocal processes.

Among the local causes which we will first consider is *perverted lubrication* of the larynx, and especially of the bands proper. As shown by Desvernine, of Havana,[3] Coyne demonstrated in 1874 that the bands, which were thought, till then, to be only lubricated from the laryngeal sac, possessed a few mucous glands. He failed, however, to detect their full number. Desvernine found them in the supra- and infra-glottic region, none being observed in the true glottic region. That the surface, at least of the laryngeal mucous membrane, may be so modified by total or partial absence of lubrication as to induce even marked hoarseness, need hardly be questioned. We find its verification in the results following the same condition in other portions of the upper respiratory tract, and in clinical evidence. It would seem, furthermore, that increased tendency to local trouble from this cause would naturally follow the presence of squamous epithelium over the vocal bands and the interarytenoid space, instead of the protecting ciliated epithelium which lines the surrounding parts.

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[1] Morell Mackenzie, Diseases of Pharynx, Larynx and Trachea. London, 1880.

[2] Mayuac: Pathologie Générale. Paris, 1883.

[3] Annual of the Univ. Med. Sciences, Philadelphia, Sec. G, p. 1, Vol. iv, 1889.

Hoarseness dependent upon deficient lubrication is most frequent in male singers, a circumstance pointing to tobacco as a possible element in its causation. This does not apply, however, to the toxic effect of the plant itself, but to the irritating action of air contaminated with smoke, which the patient inhales. It may in that manner affect female singers also. The prolonged inhalation of dust, as occurs in railroad traveling, etc., is another prolific cause which at times greatly compromises a first evening's performance. The larynx presents some variations from the normal, the most noticeable being a slight redness, which in professional singers can be of but little diagnostic value, however, since in many the larynx is normally hyperæmic. This redness may be especially marked at the vocal processes, where a small pearl of thick, white mucus is sometimes seen. The subjective symptoms consist principally in a constant desire to "hem" and a sense of constriction at the throat. The singing voice, though not greatly altered, is more metallic or "rasping" in timbre than usual, greater effort being required when the upper register is attained. A pricking sensation is frequently experienced after a few bars have been sung, which generally ends in an explosive cough. That this condition, frequently observed in singers if looked for, is but the primary stage of subacute laryngitis, is to be doubted, the subsequent history comparing in no way with that of this affection. It is a mild form of laryngitis sicca, not, however, in the sense in which the term is understood, "an *exudation* of a secretion changed in quality . . . . a tendency to dry into scales and to become attached to the mucous membrane,"[4] but in that implied by an exact translation of "sicca." There is no more analogy between the two affections clinically than pathologically, there being no scales, no underlying localized irritation, no aphonia, no hæmorrhage. In laryngitis sicca secretion *exists*, though perverted; in the affection in question there is *absence* of secretion, not due, probably, to closure of the glandular orifice of the ventricle of the larynx—although the fact that cysts of retention (Bruns, Luschka) are sometimes observed demonstrates that such a condition may occur—but to atony from exhaustion following the exaggerated efforts on the part of the glandular elements to maintain the superficial tissues in a state of lubrication, notwithstanding the desiccative property of the surrounding atmosphere. In cases in which deficient lubrication is present the voice improves as the performance progresses, instead of becoming worse, as it would were a true inflammatory process present, especially if the original causes of irritation are strictly avoided—smoky atmosphere, etc. The desire to "hem" and the tendency to cough gradually vanish, and at the end of the performance all evidence of the disturbance has disappeared.

A disorder of so temporary a duration might perhaps be considered unworthy of special attention at our hands; yet it merits especial consideration for three reasons: 1. It may be, and doubtless is, frequently taken for a trouble of a graver character, to the detriment of the patient, who is forbidden to use his voice. 2. Astringents are generally used in cases presenting symptoms that may be erroneously ascribed to a catarrhal disorder, the glandular atony being thus encouraged. 3. We can, by recognizing it, save our patient from the mortification of partial failure, to which he is subjected at least during the early part of a performance, most probably the first of a series, and during which the "first impression," so dear to artists, may be greatly compromised. The therapeusis of this condition consists of a warm spray, every two hours, of a saturated solution of potassium chlorate, and 10 grains of ammonium muriate in a tumblerful of water at the same intervals. The last dose should be taken at least three hours before the performance, to avoid exposure during the stage of perspiration which follows the active administration of the remedy. Between the acts a lozenge containing 2 grains of the drug is sometimes found beneficial.

Most frequent among the *inflammatory causes* of hoarseness are those due to the presence of catarrhal changes of a chronic character in neighboring cavities, especially the nose, naso-pharynx, pharynx and tonsils. This origin is sufficiently frequent, in fact, to cause a few writers to ascribe every case of catarrhal hoarseness to some nasal trouble. The intimate anatomical relation between all parts concerned renders it quite certain that whenever a chronic nasal or pharyngeal affection exists in a singer, the least exposure to any exciting cause will induce an extension of the inflammatory process to the larynx by continuity of tissue, the predilection of the vocal organ proper in this connection being easily explained by the constant and laborious use to which it is subjected. But that this inflammatory process cannot develop without nasal or pharyngeal catarrh as a *prima facies*, appears to me as illogical as the assertion that an intestinal affection must find its origin in the stomach. The fact, however, that nasal catarrh is present in the majority of the cases we are called upon to treat makes it imperative that we should examine the nasal and pharyngeal cavities in every case of hoarseness, and that with considerable care, for the reason that an almost imperceptible though very active focus of irritation may be found here.

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[4] Gottstein, translated by P. McBride. Breslau and London, 1883.

Lesions of the anterior nasal cavities are not so apt to cause hoarseness as those of the naso-pharynx or pharynx proper, probably because of the greater remoteness of the parts, and the fact that the secretions are apt to be voided anteriorly. A coryza or an acute exacerbation of a simple chronic rhinitis, unless it involves the naso-pharynx, will not cause hoarseness, but "throw a veil over the voice," as professionals term it, its carrying power being greatly diminished from impaired resonance, due in turn to the erection of the turbinated bodies. When hoarseness is present, therefore, whether resonance be impaired or not, the naso-pharynx will usually be found to be the focus to which hoarseness may be traced.

Whether the implication of the larynx is due to the irritating action of the secretions upon the inter-arytenoid space, on which they will be liable to fall, or to extension of the inflammation along the pharyngeal wall, I am unable to say; but I am inclined to believe that the larynx is assailed in two ways—first, by inflammatory contamination through continuity of tissue, the pharynx having become inflamed principally through the irritating contact of the secretions; and, second, by the superficial congestion brought about by the viscid secretions. The fact that the posterior wall of the larynx, *i. e.*, the inter-arytenoid space as far as the vocal processes, shows the greatest amount of congestion, would seem to lend considerable weight to this theory. Much the same action may result from inflamed pharyngeal follicles; the secretions being more mucoid than purulent, however, the laryngeal congestion and hoarseness are slighter in proportion. Hoarseness from this cause is frequently accompanied by coughing, especially when the follicles are situated in the lower portion of the pharynx, its most sensitive portion. An intense pricking sensation is experienced, which more than compensates for the milder degree of hoarseness. The tonsils and uvula occasionally take part in the inflammatory process, increasing in proportion the intensity of the trouble.

The marked and persistent hoarseness which sometimes characterizes these cases is not to be wondered at when the appearance of the larynx in some cases is remembered. The coloring may involve the entire cavity from the aryteno-epiglottidean folds to below the vocal bands, and range from the deepest carmine to the normal yellowish-pink, the posterior portion of the glottis being always two or three shades darker than the rest, and presenting perhaps an accumulation of secretion. Much faith cannot be placed in these physical signs in professionals, however; for, as already stated, the vocal organs of some, especially males, appear markedly congested in the normal state.

In all the conditions just described the integrity of the surface of the vocal bands is not alone invaded, as would seem reasonable to expect, considering the exciting causes. Semeleder, now of Mexico, twenty-seven years ago wrote these lines, which have withstood the test of time: "If we remember that beneath the extremely delicate mucous membrane there lies a very fine and firmly adherent layer of elastic tissue which, being in turn firmly adherent, covers directly the vocal muscle, we can infer that an inflammatory disease of the mucous membrane of the larynx can not easily exist without being followed by exudation into the layers beneath."[5] This can still be applied to illustrate the penetration of the inflammatory process in the majority of the cases, and, at the same time, to explain the poor success of treatment by topical applications where these are unaccompanied by internal medication.

The several forms of "catarrhal hoarseness" have been considered together before alluding to their treatment, because the therapeutical indications of all vary but little, as far as the larynx proper is concerned. The neighboring cavities implicated naturally require attention of a character peculiar to each, and often paramount in importance.

The first question to be considered is that of rest. As a general rule this is indicated in every case of catarrhal hoarseness, whether mild or severe; for as Michel, of Cologne, states:[6] "Singers who use their voice during a more or less grave disorder almost always cause it to lose some of its brilliant qualities." That this is true, there is no doubt, and our recommendation should be framed accordingly, taking the severity of the local trouble as our guide, as regards the duration of the resting period and its degree. In professionals, however, rest is rarely possible, and as long as a vestige of voice remains they insist upon a continuance of their work. What are we to do in these cases? Without doubt the most advantageous plan to all concerned is frankly to disclose to the patient the dangers incurred; to recommend abandonment of rehearsals; limitation to the smallest degree possible of the part to be sung or spoken; to transpose, when possible, all high notes, or, if this is not possible, to shorten the chest register a couple of tones, thus changing to the head tones without having to throw upon the larynx the strain of the two highest notes of the chest register; in other words, to limit as much as practicable the work of the vocal apparatus.

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[5] Semeleder. Rhinoscopie und Laryngoscopie, Wien, 1862.
[6] Revue de Laryngologie, d'Otologie, etc., March 15, 1889.

A general point of importance in the treatment of these cases is one frequently overlooked—attention to intestinal action. In female professionals especially, constipation is almost the rule, due, probably, to the irregular attention they can give themselves, their varying diet, and the continued traveling in railroad cars, the last being a very active agent.

Purgatives, even mild aperients, are, for obvious reasons, out of the question. Enemata, while being immediately effective, present the advantage of not diminishing the patient's strength. An enema composed of one pint of lukewarm water and a tablespoonful of glycerine will sometimes be found to act surprisingly not only on the intestines, but on the voice, especially if, as is often the case with traveling artists, the bowels have not been moved for several days. Important also in this connection is the influence of the gastric and hepatic organs in maintaing the catarrhal affection which induces the hoarseness, and to which singers who indulge themselves rather freely are specially liable. An emetic, followed every two hours until the performance by 10 grain doses of bismuth, acts most promptly in these cases.

Taking now the treatment of the catarrhal disorders of the naso-pharynx in the order in which they were described, we will first consider coryza involving the nose proper and the vault. The turgescence of the erectile tissues of the anterior cavity should first be reduced by a local application with a pledget of cotton of a 4 per cent. solution of cocaine. This accomplished, a powder composed of ⅛ gr. of morphia acetate, 1 gr. of bismuth and 1 gr. of sodium silicate is blown into each nostril, taking care to project the powder sufficiently far to include the pharyngeal vault. The walls of the cavities being thus well covered with the sedative powder, a fine spray of liquid cosmoline is thrown over the whole. The procedure should be repeated in four hours, if possible. If fever is present, drop doses hourly of tincture of aconite will usually reduce it markedly, and favorably influence the catarrhal process.

If the nasal trouble be but an exacerbation of a chronic rhinitis, masses of secretion are often the principal cause of irritation. Their removal by means of a coarse spray of a solution of 5 grs. of bicarbonate of soda to the ounce of water assists the other portion of the treatment. When an attack of coryza is of several days' duration, more active means are necessary to bring about an immediate and lasting cessation of at least the occlusion of the nose. An incision with a small galvano cautery knife into the most prominent swellings over the turbinated bodies of one side is of service. The most satisfactory local application to the pharynx in an exacerbation of simple or follicular pharyngitis is a 40 grs. to the ounce solution of nitrate of silver. A solution of this strength acts to a degree as an anæsthetic by causing contraction of the capillaries. It should be applied with a cotton pledget, after thorough cleansing of the surface with a spray of the bicarbonate of soda solution mentioned. Care should be taken to allow none of the solution to fall into the laryngeal cavity. Inflamed follicles, if painful, should be cauterized lightly with a galvano-cautery point, not more than three or four, however, being destroyed at one sitting. The counter-irritation produced by cauterization frequently clears the voice markedly, especially for the same evening. As far as the treatment of the larynx proper is concerned, I can not say that in my hands the ordinary carbolized sprays, Lobell's solution, etc., have given the results claimed by many; in a number of cases, in fact, they seemed to act more as irritants than sedatives. When there is considerable adhesive secretion in the larynx, however, they become useful as cleansing agents. Much more effective in reducing the hyperæmia and, therefore, the turgid condition of the capillaries of the vocal bands, is a solution of resorcin, 7 grs. to the ounce. A stronger solution causes too much dryness; a much weaker is ineffectual. The preparation should be used with an atomizer about every two hours the first day, then three times daily. To enable the solution to thoroughly bathe the bands, the voice should be sounded *during inhalation*, while the fluid is being sprayed in, the bands being thus brought in and forming a floor, as it were, at the lowest portion of the larynx. When the hoarseness is great, an application with the cotton pledget of carbolized iodo-tannin or a solution of perchloride of iron, 20 grs. to the ounce, causes a sudden contraction of the capillaries, which is effectively maintained by the resorcin solution.

When the case is a recent one and is seen early in the day, an insufflation of the powder recommended for the nose (morphia acet., gr. ⅛; bismuth subnit., gr. j., and silicate of soda, gr. j), repeated in two or three hours, will sometimes succeed in aborting it, especially if the powder is well distributed over the laryngeal surfaces, and if a fine spray of liquid cosmoline is thrown over the powder. A thin coating is thus formed over the inflamed membrane, which protects it for some time against the irritating action of the air current. Morphia has a "benumbing" action on the vocal bands, and should not be used within four hours before singing.

Of great assistance in this class of cases, as well as in the muscular variety next to be considered, is the use of coca wine when taken not only a half hour before the performance, but at the end of each act, so as to obtain the benefit of "toning" action when the next act is about to begin. That the "toning" action is not due to the wine proper, as some believe, is demonstrated by the fact that sherry, the most alcoholic of all wines, does not at all give the singer the smoothness and ease of execution obtained from coca wine; while liquors, such as whiskey or brandy, tend to increase hoarseness if present, or to cause it if it is not. An interesting paper on this subject was recently read before the Société de Médecine Pratique by Dr. Sandras, of Paris, who thought he could ascribe to the use of cocaine or coca, internally or by atomization, cases of aphonia occurring in his practice. That cocaine used locally in any form may produce aphonia, there is no doubt; but that coca administered internally should, is disproved not only by clinical experience, but by our knowledge of the physiological properties of the drug. As demonstrated by Laffont,[7] the action of coca upon the nervous system is one of stimulation, which exerts itself principally upon the constrictor fibres of the sympathetic. The "toning" action of the drug on the larynx is thus clearly explained by the intimate functional relation between the vagus and the formation of the voice, which depends in reality upon the action of the constrictor muscles. That paralysis may be due to overstimulation by coca is negatived by the vigorous condition of the natives of Peru, Bolivia and Colombia, who are, on the contrary, noted for their staying powers, which they ascribe to their constant use of coca leaves. The fact, however, that many of the coca wines on the market are but solutions of cocaine in either sherry or port wine, renders it quite possible that anæsthesia of the posterior portion of the larynx might be caused by contact with the drug during the act of deglutition, and thereby interfere with the functions of the vocal organ. I noticed this effect—a stiffness in the throat—while trying a number of brands to ascertain which would best serve my purpose. The preparation which I selected (Mariani's), made from the leaves, did not produce this effect, owing to the infinitesimal quantity of cocaine that it contains,—gr. $\frac{1}{60}$ to the ounce—all anæsthetic action being furthermore antagonized by the tannic acid present not only in the leaves themselves, but in the claret forming the excipient. A great advantage of coca wine made from the leaves is that it exerts its tonic action without giving rise to constipation. It can for that reason be administered continuously, with much benefit at times, in cases in which muscular weakness causes tremulousness of the voice.

The effect of *impaired muscular motility* upon the proper production of the voice does not, it seems to me, receive the attention it merits. In professionals, especially, it forms an element second in rank only to the inflammatory conditions of the membrane just described, its origin being easily traceable to excess of work in the majority of cases, and to improper breathing during vocalization The necessity of singing every evening, to which comic opera singers are subjected by most managers, is sufficient in itself to account for a number of cases. The forced rehearsals, in addition, play the part of the straw on the camel's back in the majority. The results, of course, depend greatly upon the strength of the singer and his method of vocalizing. Many escape myopathic changes for a number of years and suddenly break down; others experience local fatigue and intermittent hoarseness from the beginning. If we remember the great complexity of the vocal muscle, the thyro-arytenoid, which presents a range of variation perhaps unequalled amongst the muscles of the body,[8] we can well appreciate how easily the slightest dilatation of the capillaries may impede its action. If, again, we consider the multiplicity of its duties, we can readily appreciate how easily congestion may be produced. The other muscles taking part in the constriction of the laryngeal aperture also take part in the general results of the causative elements, whatever they may be; but principally concerned in the production of hoarseness is undoubtedly the thyro-arytenoid. Vascular overdistention at intervals, which gradually become shorter and shorter; capillary engorgement due to paresis of the vaso-motors, or of the unstriped vascular muscles which they furnish, with possible infiltration into the perimysium, is probably the extent of the inflammatory course to which the muscles are subjected, the stage of stasis, etc., being probably never reached. As a result of these changes we have not only interference with their mechanical action, especially in the more delicate functions, but also a certain amount of alteration in their topographical configuration, and an involvement of the areolar tissue around the muscle. The latter complication is probably the ruling element in the production of hoarseness, through myopathic inflammatory changes. Could these pathological changes involve the crico-thyroid and the lateral and posterior crico-arytenoid only, hoarseness would not be caused; but located in the arytenoid and thyro-arytenoid, they produce practically, but to a slighter degree, the mechanical alterations caused by inflammatory disorders of superficial and collateral origin, and the same impediments to the proper juxtaposition of the bands in the formation of tone that result from them. In addition, however, we have the manifestations of deficient muscular action.

Hoarseness of myopathic origin is most frequently recognized in females, possibly because their larynges do not as frequently as in the male present the permanent hyperæmia of the bands which renders a positive diagnosis almost impossible. The larynx shows but little, if any, alteration from the normal. This, of course, does not apply to paralytic or even true paretic cases, in which characteristic appearances would be present, but to atony of the muscles. The speaking voice is normal. The singing voice is generally alone affected, and that only in certain tones, though weakness pervades them all. The higher tones are generally "lost in the breath," that is to say, the passage of the air through the glottis is much more audible than the note proper, although in a small proportion of the cases the upper portion of the chest register *may alone* be affected.

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[7] Comptes rendus de la Société de Biologie, Dec. 3, 1887.

[8] Human Anatomy, by Harrison Allen. Philadelphia, 1884.

The treatment of this condition differs in every particular except one from that of the preceding condition. The exception is the attention to be paid to the gastro-intestinal system, which may be found to be an important element in a small proportion of cases. In emergency cases the voice is sometimes markedly improved by a mild Faradic current, the positive pole being applied behind the larynx below the inter-arytenoid notch, and the negative externally on each side of the thyroid cartilage. The point of the laryngeal electrode should be flattened from before backward and covered with chamois skin. For an external electrode I usually use the thumb and index finger of my left hand, the end of the battery cord being fastened to the palm. In this manner I can make the application with much more exactness over the location of the muscles I desire to influence on each side of the glottis, penetration being secured by frequently dipping my fingers in water. The crico-thyroid and crico-arytenoid are first treated by placing the fingers on each side of the space felt below the thyroid cartilage, and sliding them antero-posteriorly along the groove felt in the deep tissues, the skin which slides over the latter with the fingers being pinched when they are approximated anteriorly. To treat the thyro-arytenoid the fingers are merely moved a quarter of an inch higher (just below the lower border of the thyroid), and the same procedure gone through with. The length of the application depends entirely on the ability of the patients to stand the electrode in the larynx. It is generally well tolerated, owing to the fact that it does not enter the laryngeal cavity. Five minutes represents the usual time occupied in such cases. The electrode is introduced a few seconds, then withdrawn, then reintroduced, and so on, great care being taken to avoid touching the base of the tongue. A solution of the hydrochlorate of cocaine can be used to anæsthetize the spot upon which the electrode is to be placed, but the pernicious after-effect of this drug on the voice when the latter is to be used within a few hours renders the use of the drug undesirable.

Internally a pill composed of 1 gr. of quinia and ¼ gr. of nux vomica, administered every two hours, maintains the muscular tonicity throughout the performance, especially when coca wine is taken between the acts, as recommended above. The curative treatment includes the electrical application three times a week, and iodide of potassium, 5 grs., gradually increased to 30, three times daily if the patient can bear it, which he will be much more likely to do if the iodide is administered in a glassful of water immediately after meals, and if three drops of Fowler's solution are given with each dose.

THE VALUE OF INTUBATION OF THE LARYNX, IN CONNECTION WITH OTHER OPERATIONS.

BY MEANS OF CATHETERS, RUBBER TUBING, AND INTUBATION TUBES, WITH METHODS AND DESCRIPTIVE CASES. A NEW SELF-CLOSING INTUBATION TUBE.

Read in the Section of Laryngology and Otology at the Fortieth Annual Meeting of the American Medical Association, June, 1889.

BY J. MOUNT BLEYER, M.D.,
OF NEW YORK CITY.

As we advance in our specialty we therefore increase in the number of operations, and there is no doubt that most of those have proved to be a lasting benefit to the world at large. I wish here to add and bring before the notice of this body several new methods showing the use and value of intubation of the larynx in connection with other operations.

My remarks upon these methods will be brief, and by way of illustration will cite a few cases upon which these operations have been performed.[1] The following are some of the operations in which intubation by the above means can be made use of: Post-pharyngeal abscess, laryngeal abscess and cysts, syphilitic adhesion of the larynx by a web, in all operations about the cavity of the mouth where hæmorrhage is present, cleft palate, in all œdemata about the larynx, excessive hæmorrhages from the tonsils, post-nasal tumors or growths, in the removal of vegetations of the vault of the pharynx, in cases where a hurried tracheotomy is necessary—called by me the combined method of tracheotomy and intubation, previously intubating with a large-size catheter and then performing tracheotomy, thereby gaining time in operating and supplying the necessary air during such an operation. This I have many times performed much to my satisfaction, and must here say that those who ever perform tracheotomy by this mode will never do it otherwise. Every one who has performed this operation knows the amount of risks that one has occasionally to contend with during the stage of passing the tracheotomy tube, etc. In some other operations where a hæmorrhage or apnœa may be present or due to causes which would require a preliminary tracheotomy, without interfering with the operating field.

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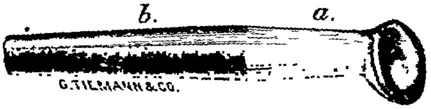
[1] As it seems to me that in subjects such as these it is well to confine oneself to those points about which one can speak from experience, and which one has put into practice.

The following are some of the cases in which I made use of intubation of the larynx: Four cases of post-pharyngeal abscess, one case of syphilitic adhesion of the larynx, three cases of combined tracheotomy and intubation, two cases of œdema of the larynx, one case of tongue swallowing during anæsthesia, etc. All these were treated with the most satisfactory results.



The Methods with Illustrative Cases.—1. The first case in which I introduced into the larynx an English catheter was a child 2 years old which I operated upon for a deep-seated post-pharyngeal metastatic abscess due to vaccination. The abscess was nearly the size of a chicken's egg, occupying nearly the entire space of the pharynx. It was one of two weeks' standing. The patient was in its last stage, and to operate without some means of keeping up respiration during the operation, which was at that time hazardous, and then taking into consideration the possibility of the pus after the incision passing into the trachea; taking it altogether, the prognosis of this case was not of the most hopeful.

Method of the Operation.—The operation was conducted in the following way: The patient was placed in the ordinary intubation position, a gag was inserted, after which a No. 16 English catheter—or use the largest size that can be introduced in such or other cases, in order to prevent fluids from passing in between the unoccupied space, it should previously be softened in warm water. This was introduced well down into the trachea and then turned the outside end towards the back of the head, thus allowing the assistant to control and guard both the gag and catheter. Immediately after the introduction of the catheter the character of the respiration becomes normal and the patient makes no more resistance or struggle during examination or operation. I waited a few minutes, after which I passed the forefinger of my left hand well down upon the abscess, followed by a laryngeal lancet, opening the same by a deep incision. After the incision the child was at once inverted, and pressure made upon the abscess with the index finger. The throat was thoroughly irrigated with a solution of Ch. Marchand's peroxide of hydrogen, ℥iv to ℥iv of water. This solution I always use in such conditions where pus is present; this has proved in my hands one of the best antiseptic and non-poisonous compounds, and should certainly be highly recommended. From this case I make these deductions:

1. That without catheterization of the trachea the chances of suffocation from the pus flowing into the trachea were imminent.

2. The stenosis which was present and so alarming was immediately overcome, and during the entire operation, by previously establishing normal respiration.

3. Guarding the opening of the larynx by means of a large-size catheter.

4. Gaining of time during the operation, and all struggle for breath was thereby obviated.

The next operation that I wish to illustrate is one of syphilitic adhesions of the larynx which was cured by means of incising the adhesions and the introduction of large-size intubation tubes, thus keeping the incised edges from again adhering to each other, and also dilating the adhesions which were previously incised.

A female æt. 35 years, syphilitic, came under my care for the treatment of a severe stenosis. On laryngoscopic examination an inflammatory syphilitic adhesion was seen which existed between the cushion of the epiglottis by a tight fibrous band uniting the vocal cords along the anterior two thirds of their free border and reducing the glottic chink to the size of a goose quill. The right cord was much inflamed and the side of the larynx generally was thickened, respiration was harsh and whistling but regular during the day; there was much dyspnœa; on slight exercise, at night and during sleep loud stridulous breathing on inspiration.

The examination of the lungs elicited dulness over both apices.

The patient was placed on large doses of the iodides and cold applications to the throat. These conditions of the throat within three weeks' time were much improved. Most of the inflammation disappeared.

Now for the treatment of the cicatricial tissue. Dilatation was tried for three months by means of the O'Dwyer tubes. These were worn for two weeks at a time and then changed for larger sizes. Under this mode of treatment and dilatation the patient showed much improvement. She gained in weight. Her lungs again on physical examination in the second week showed a very marked change. After two months the tubes were discontinued and the patient was discharged. Two months later the patient came again under my notice and complained of her breathing, saying that it was not as free as a month previous. I again examined her by the laryngoscope, from which I learned that the cicatricial web again began to interfere with normal respiration, closing around as before treatment. I concluded from the condition of affairs that it would be best to operate, and thereby if possible give her permanent relief. These were the steps taken for the permanent cure of this case:

This patient was one well trained for laryngoscopical examination and who could stand any amount of laryngeal manipulation. A good light was thrown upon the operating field, and thereby the entire condition thoroughly explored before any operative procedure was undertaken. A 20 per cent. solution of cocaine was sprayed over the pharynx, post-pharyngeal wall, soft palate and larynx, in order to produce a complete anæsthesia of the entire surrounding localities. A gag was inserted on the left side of the mouth. This instrument should be made use of in all such operative manœuvres, so that one may be able to control the opening of the mouth, and not trust to the patient. An assistant should control the head of the patient against an ordinary head rest. These are the preliminary steps that I generally pursue.

The cutting was done with Lennox Brown's laryngeal dilator with cutting blades. This instrument possesses these advantages over the Whistler cutting dilator: In passing tubes into the larynx many difficulties are encountered, and especially through a cicatricial stricture are much greater than generally stated. This instrument of Lennox Brown's possesses the advantage of being a hollow tube of Schrötter and the cutting dilator of Whistler, so that the surgeon in operating is always sure by the outward passage of air, when the hollow tube is in the larynx, is able to incise with more certainty as to what he is cutting and, moreover, in case of spasm the air passages are not entirely obstructed. A large size laryngeal mirror is necessary in order to procure a good laryngeal image. The Lennox Brown cutting dilator was introduced with ease and the cicatricial web cut through. The breathing during the introduction of this instrument was momentarily disturbed, after its complete passage normal breathing was carried on through the hollow opening in the dilator. Hæmorrhage was very slight After the incision the instrument was withdrawn and the larynx thoroughly sprayed out. A few minutes later a large-size hard rubber intubation tube was introduced into the larynx and kept there for three days without its removal. Cold applications by means of compresses were used for forty-eight hours with irrigation of the larynx, also spraying with a 10 per cent. solution of cocaine for the relief of pain; this was continued for two days with much relief to the patient. Iodide of potash was again resorted to. Three days later the tube was removed and again replaced. An examination after the first removal of the tube showed a great improvement and healing of the wounded cicatricial web. The cicatrix was diminished, and the size of the opening made by the incision was thus kept open by the continued dilatation of the larger sized tubes, until the edges of the cicatricial tissue were well healed. The time of healing of these edges lasted seven days. The tubes should be worn for two weeks at least after their first introduction. The tube should be removed daily for cleansing. Astringent solutions should be used in spray form for after-treatment. This patient made a complete recovery as the result of this operation. It is now two months since the tube has been permanently removed, and when I last examined the larynx I found the cicatricial web in the same state as after the incision. The patient was in excellent condition and breathing at a normal rate.

This method of treatment seems to me to be of a permanent value as compared with other methods. There is no necessity for a preliminary tracheotomy. The tedious dilatation with dilating instruments for an indefinite length of time, and then with a view of a non-success.

I do not mean to say that every case can thus be treated, but there are cases which come under our notice for treatment where such treatment by this mode I here introduce deserves a trial.

I have used these modes of operating in many such cases which are too numerous to describe here. These two cases by way of illustrating which have just above described and are sufficient to bring before you what can still be expected of intubation of the larynx in connection with other operations.

83 2d Avenue, New York City.

TREATMENT OF MORPHINE HABIT.

BY EMORY LANPHEAR, M.D.,

OF KANSAS CITY, MO.,

SURGEON TO EAST SIDE DISPENSARY.

By the introduction of new remedies considerable change has taken place during the past three years in the management of cases of the morphine habit. My present method of treating is, briefly, this: Upon admission to the hospital the patient is introduced to his special nurse who is to be his constant companion during the succeeding six weeks, and after being made comfortable is given an initiatory bath. He is then requested to give up his instruments and morphine as the physician henceforth is to attend to the administration of the drug; he does this willingly and makes no attempt to concealment if he be in earnest about undergoing treatment—if he be not, cure were better left unattempted. Under no circumstances is the patient humiliated by *searching* the clothing and trunk, as advised by many authors—it is the key-note of dissatisfaction and discord can be the only result; in other words the subject is made to feel that confidence between patient and physician is mutual.

WITHDRAWAL.

After these preliminary steps an assurance is given the patient that he is to be made as comfortable as possible and that the pain will be reduced to the minimum. He is then left to become accustomed to his surroundings, and at the proper hours the hypodermic syringe is brought into use by the attendant who opportunely makes his appearance just as the patient begins to be uneasy. No attempt at reduction is made the first day in hospital: this encourages the subject, causing him to feel confident of the truthfulness of the doctor in the statement that there will be little suffering. Upon the second day but little reduction is made except at the urgent solicitation of the patient, which is not at all uncommon. On the third day the amount is diminished *one-half* (provided a large quantity is being used—less than one-half if only a few grains are being taken daily); on the fourth day a reduction of one-half, the fifth the same, and so on. Thus if sixty grains be the amount taken, on the second day perhaps fifty grains may be injected; on the third day thirty, on the fourth fifteen, on the fifth eight, on the sixth four, on the seventh two, on the eighth one, on the ninth one-half and on the tenth pure water. Frequently the diminution can be carried on much more rapidly than this; more than once I have run the scale from sixty grains, taken hypodermatically, to nothing within a period of four or five days, but most cases require from seven to ten days for complete withdrawal. Each case must be a law unto itself. Alarming symptoms may demand slowness; happy indications prompt haste. Undue prolongation of withdrawal is to be studiously avoided as it is even more cruel than the abrupt discontinuance of the Levenstein method.

INSOMNIA.

Nothing is given to produce sleep the first night—nothing is needed; the second night the patient is given his last dose of morphine at ten o'clock upon retiring, and this suffices. At eight o'clock on the third night twenty grains of sulfonal are given; the patient then is allowed his second bath and at half-past nine the sulfonal is repeated and an hour later the morphine. During this night the patient will be somewhat uneasy but will sleep fairly well; the next will be a troublesome one, so at 6 P. M. he is given four grains of monobromide of camphor, and the dose is repeated at seven, eight and nine o'clock; at ten recourse is again had to the scruple of sulfonal, and at eleven the same amount is administered simultaneously with the last injection of morphine, the number of injections having now been reduced to two *per diem*—one as late in the day as the patient will permit, the other at bedtime. The next night and the next the same procedure is carried out and, with possibly one night of sleeplessness, from four to eight hours' sleep will be secured each night. The amount of monobromide of camphor is rapidly decreased after three or four nights and as soon as possible the sulfonal is superseded by ammonium bromide, which is also nightly reduced in quantity until nothing is taken. This is usually about the fourteenth or fifteenth day.

DELIRIUM.

Delirium, if it arise, as is frequently the case if withdrawal has been rapid, is met by the hypodermatic injection of one-sixtieth (1-60) grain of hyoscin hydrobromate, repeated in one hour if necessary. A third dose is never given inside of eight hours. In one case (of abrupt withdrawal) where maniacal symptoms arose the same quantity of hyoscyamine sulphate acted kindly, but the other hyoscyamic alkaloid has proven eminently satisfactory in my hands. A brief period of excitement follows its injection, succeeded by a feeling of calmness—even tranquility—which persists from four to twelve hours. I have never had a dangerous symptom from its use and in only once case have I found it devoid of efficacy.

DIARRHŒA.

Under this mode of treatment diarrhœa has not proven the distressing feature that it has in former cases—why, I do not pretend to say, I simply record it as a clinical observation. Salicylate of bismuth has given fairly good results when tried, but most reliance is placed in a mixture of bismuth subnitrate, tannic acid and aromatic syrup of rhubarb in quantities sufficient to control the number of discharges. If there be great pain and tenesmus codeine sulphate added to the bismuth mixture acts charmingly, far better than opium or morphine and with less harm. The "sinking-feeling" at the pit of the stomach is generally amenable to hot fomentations or a belladonna plaster; vomiting, which also sometimes accompanies the diarrhœa, often yields to half-grain doses of carbolic acid in peppermint water, though it usually is not of sufficient importance to demand attention unless it occur after each effort to take nourishment.

PAIN.

One of the most distressing features is "cramps" in the muscles of the leg and thigh and neuralgic pains—particularly sciatica. For this fifteen grains of methozin (antipyrin) is dissolved in sixty minims of distilled water and a half injected over the seat of the greatest pain, the other half close by. A sharp, stinging sensation follows, persisting for a half minute, succeeded by a complete subsidence of the pain. My experience corroborates that of Germain Sée: that in methozin, injected beneath the skin, we have an agent even more powerful than morphine for the relief of nervous pain.

DISTURBANCES OF CIRCULATION.

For remedying this important group of symptoms I have found nothing superior to the well-known lines: food, alcohol, recumbent posture, warmth, friction of the extremities, etc. *Milk* punch usually meets all the requirements and cannot be improved upon. Here hot sponge baths, once daily, are useful, and give a sense of comfort. In weak heart digitaline has proven utterly valueless in my practice; atropine is better.

NERVOUS SYMPTOMS.

For the nervous symptoms other than delirium and sleeplessness, *i. e.*, for the general uneasiness and anxiety, I often prescribe:

℞. Tincturæ hyoscyami
Elixir potassii bromidi (N. F.[1]) āā f℥j.
Misce. Sig.: Dessertspoonful three or four times daily --to be gradually diminished.

When convalescence is established tincture of nux vomica affords much satisfaction—five to ten drops in half a glass of water before meals, and an iron tonic is of service one hour after meals.

CONCLUSION.

In conclusion I would say:

1. With these new remedies we pass the "ordeal" of withdrawal far more satisfactorily than heretofore.
2. Many baths are avoided because too weakening.
3. The physician gives each dose himself so that for a day or two after complete suspension of the drug pure water may be injected to relieve the patient's mind.
4. Complete cure (permanent) can be effected much more frequently than authors would lead us to suppose.
5. With competent, trustworthy nurses and hospital confinement it is not a difficult disease to treat.
6. During convalescence the patient is constantly assured of the permanency of the cure—a sort of non-hypnotic "suggestion."
7. Before discharge ample explanation is made regarding the necessity for carefully avoiding the use of the drug for any disease within a period of at least two years.
8. Not the least important element of success is attention to the daily life of the recuperating invalid: nutritious food, abundant exercise, proper sleep, freedom from worry, and to end all a pleasure trip if possible.

No. 8 E. Ninth street.

MEDICAL PROGRESS.

Extirpation of the Scapula with Preservation of the Arm.—**Périer** reports the case of a man aged 55 years in which he removed the right scapula. In July, 1889, the patient noticed a small tumor on the right shoulder which by October had reached the size of one's fist; the skin covering it was glossy, tense and discolored. There was no ganglionic enlargement and no pain; the movements of the joint were free and the general health perfect; the case was evidently one of sarcoma requiring extirpation. The acromion and a small portion of the spine of the scapula were first resected; upon examination of the surface of the bone section islets of a dark melanotic hue were seen and it became necessary to remove the entire scapula after detaching the adjacent muscles. A large wound remained, at the bottom of which the head of the humerus could be seen surrounded by the capsular ligament, which was like a narrow prepuce. After arresting the hæmorrhage and using Van Swieten's solution freely the opening of the capsular ligament was closed and the detached muscles were sutured. The cutaneous wound was then united and dressed with salol. The skin mortified at the points where it had been tense but there were no other complications. After completion of cicatricial healing the arm remained suspended from the extremity of the clavicle; its movements were limited but its helplessness was due to the loss of abduction which it is hoped will improve. An examination of the tumor by Toupet showed that it was really a sarcoma, but the little black islands were found not to be due to melanosis but to sanguineous effusion into the sarcomatous tissue. At present there are no signs of a return of the disease.—*La Sem. Méd.*

Erysipelatous Bronchopneumonia without External Erysipelas.—**Mosny** reports the case of a servant who while attending his master during an attack of facial erysipelas took sick with inflammation of the lungs and died within two days. The autopsy revealed a very circumscribed bronchopneumonia focus from which the author cultivated a streptococcus which was proved by inoculation to be identical with the streptococcus erysipelatos. He regards this as the second case of erysipelatous pneumonia—the first having been described in 1879 by Strauss.—*Cent. für Bak. und Parasitenkunde.*

The Microbe of Infectious Osteo-Myelitis.—**Lannelongue** in an important communication to the *Académie des Sciences* discusses the subject of the microbes of infectious myelitis. From a careful study of this subject he finds that the pathogenic agent is not exclusively the staphylococcus pyogenes aureus, but that the staphylococcus pyogenes albus plays an equally important rôle and that sometimes the streptococcus is the cause of the suppuration. Ja-Conly and Bertoye have made similar reports.—*La Province Méd.*

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[1] I make it my rule to prescribe articles included in the National Formulary whenever possible, as far preferable to the "general run" of proprietary goods.

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SATURDAY, MAY 3, 1890.

WHAT SHOULD ENTITLE AMERICAN PHYSICIANS TO THE RIGHT TO PRACTICE MEDICINE?

The American Medical Association, from the time of its organization, has sought to secure the highest practicable standard of medical qualification for the physicians of our country, and, thereby, to give the public the best obtainable skill. THE JOURNAL, in its efforts to reflect the sentiment of the medical profession of the United States, has from time to time presented to its readers the efforts that are being made through our different medical organizations and by State legislation to elevate the standard of medical attainment, and to determine a degree of attainment that should entitle a physician to the right to practice medicine. It has been made manifest that the Federal Government cannot either undertake to educate physicians, or to establish any uniform standard of qualification for medical practice. The courts have, however, decided that the State, under its police power, has a right to legislate for the protection of the lives and health of its people, and thus to enact laws regulating the practice of medicine. But it is not practicable to have any uniform law to govern practice in all of the States and territories, for the demands, professional, physical and social, vary very much. The most feasible plan therefore seems to be for each State and territory to establish for itself, the standard of attainment which will be required to entitle a physician to practice medicine in that State or territory, and, also, to decide how it shall ascertain whether that standard be attained. For that purpose it seems best that each State and territory should have its Board of Examiners charged with the execution of a law, and capable of conducting proper examinations as to qualifications. Such boards should have a right to ignore the possession of a diploma by any applicant, or his claim that the diploma should carry with it a right to practice. Such a course would make American Medical Colleges what they should be, simply teaching bodies. Then a healthy rivalry would develop, not, as at present, to turn out the largest number of graduates but to do the best teaching and to afford the greatest facilities, through thorough equipment, for a liberal medical education and the preferment which such a course would secure for its graduates. The evolution in medical education which has been going on since our colonial days has gradually led up to a conviction now quite general in the profession, and with the public, that teaching and licensing to practice ought no longer to be united in any medical college.

That it has been possible to regulate satisfactorily, by the State, the practice of medicine through properly constituted medical boards charged with the execution of laws passed by the State for that purpose has been demonstrated in several States. Illinois was one of the first. Although its early efforts were only partially successful, through imperfections in the law and inexperience in its enforcement, yet much good has resulted, through the judicious course pursued by the board charged with the enforcement of the law. The greatest defect of that law lies in its recognition of a diploma from a medical college which the board recognizes as "in good standing," and entitling the possessor of it to a certificate from the board without examination which, on its being recorded, entitles its possessor to the right to practice medicine in the State of Illinois. Whilst the law's restrictions have done much for the cause of higher medical attainment, a still greater gain would probably be made if the State should so amend the law that all diplomas should be disregarded and all applicants for license should be subjected to the same examination in all of the essentials of a medical education, regardless of the source from which the knowledge came. The State of Minnesota has enacted a law which, whilst doing much good for the people of the State and aiding the cause of higher medical education, is perhaps unnecessarily stringent in that it requires that an applicant for license must have a diploma, and from an institution which complies with the requirements of the law of that State. A board which is qualified for the responsible duty which devolves upon it, should be able to pass reliably upon the candidate's attainments, irrespective of his possessing a diploma and regardless of the source of his knowledge.

If at the conference of medical colleges, which it has been proposed should be held in Nashville at the time of the next annual meeting of the American Medical Association, steps can be taken in the direction of efficient legislation by more of the States to govern the practice of medicine, more good will be accomplished than by trying to establish any uniform system of teaching medicine in the different medical colleges of the country, or of requirements for graduation; for many of the smaller colleges, being without proper equipment for teaching, and without adequate clinical resources, should only be regarded as preparatory medical schools, not as colleges which should grant diplomas. The adoption by all of the States of such a plan of regulating the practice of medicine within its limits would have several advantages, in that it would require all applicants to be subjected to the same examination upon all essentials in practice, and disregarding sectarian views relative to therapeutics as of secondary importance. One effect of this would be a tendency to unification of teaching and practice, and doing away with so-called sectarian schools and obviating any supposed necessity for "mixed boards." By recording on the certificates the grade attained on the established scale of numbering, that certificate, when registered by the county official as required, would enable the public to ascertain the result of the examination, and thus to form some idea of the physician's attainments, which they now find it very difficult to do, and find that they have to content themselves with the vague assurance that the physician has "a diploma." With the record a public one, which the physician knows, and with a right to have subsequent examinations and a higher rating, an incentive would be given for further study and greater attainment than is now felt by many who are content with having "a diploma," which is regarded by them as an all-sufficient passport which obviates any necessity for further study. The advantages and the inducements for further study, as shown in the second examination required in the medical corps of the Army, the Navy and the Marine-Hospital Service render it probable that, in civil practice a hope of greater reward for increased proficiency would not be without good result in these days of active competition in the over-crowded medical profession. Since the medical colleges, after long-continued efforts to remedy the evils incident to licensing to practice medicine, have been unsuccessful, the great hope of the public and of the medical profession seems to lie in judicious legislation by the States. The members of the American Medical Association, the most representative body of medical men in the United States, can do much to influence wise and just legislation in the States that have not already enacted laws to regulate the practice of medicine. If the Association, at the Nashville meeting, will continue the effort which it has been making, and its effort should be supplemented by the proposed conference of medical colleges at that time, further impetus may be given in the direction of more and better legislation by the States to regulate the practice of medicine, and to determine what shall entitle a physician to the right to practice in the State in which he resides.

STANDARD PREPARATIONS.

No more important matter will be brought to the attention of the Committee on revision of the United States Pharmacopœa, to meet in a few days, than the proposed adoption of standard preparations. The adoption of standard (or "standardized") preparations would require that all manufactured articles should be made from crude drugs of known strength, as determined by assay.

The pharmaceutical profession is divided on the subject, and to many of its members there seems to be a financial aspect of the subject which is more to be regarded than all others. The manufacturing pharmacists on the one hand advocate the adoption of standard preparations as a just measure, and one that is calculated to increase their revenue; but the dispensing druggists oppose it as impracticable. That it is impracticable to many of the dispensers, there can be no doubt, for there are perhaps comparatively few who are competent to make a correct assay of organic drugs. To those who are competent it is objectionable in the great expenditure of time it would require of them, and in the fact that there are many preparations in which absolute accuracy of strength is not essential. That the measure is practicable, however, is sufficiently demonstrated by the fact that some of our manufacturing pharmacists have used none but assayed drugs for a period of several years. We are pleased also to see that **PROF. C. T. P. FENNEL**, of Cincinnati, a member of the pharmaceutical committee on revision, and one who is a dispenser and not a manufacturer, strongly urges the adoption of standard preparations, in an article contributed to the January and February numbers of the *American Druggist*.

To the medical profession the question is simply: Shall we insist upon receiving the best that can be dispensed, or shall we put up with what we have? The mere hint that our prescriptions can be filled with greater accuracy than they at present receive, should be cause sufficient for earnest demands for improvement. Who can tell the dose of aconite, belladonna, digitalis, gelsemium, or of a host of other medicines? Much valuable time is often lost in ascertaining the quantity of a given preparation that is necessary to obtain a required effect. Individual idiosyncrasies are of course met with in patients, but they are not to be compared in frequency with the uncertainty, even dangerous variations, in the strength of medicines. An editorial in the journal just referred to opposes the adoption of standard preparations because there are certain drugs, among them digitalis, whose active principle has not been definitely determined, and others whose assay is not positive, and yet others in which absolute accuracy is not necessary. We note that one of our prominent pharmaceutical journals in a succession of issues, vehemently opposes the measure on no higher than financial grounds. But the physician, when he sends his prescription to the apothecary, has a right to demand that it shall be compounded of drugs whose action is equal to that which he has learned to expect from them, and he should not be intimidated by the fact that there is some doubt as to the identity of a certain alkaloid, or as to the best means of assay; much less by the pecuniary interests of the apothecary, whose interests he is, as a rule, under little obligation to respect. It is solely a matter of justice to the patient, as well as to him who prescribes.

Fortunately, the interests of the medical profession will be ably supported in the committee by the gentlemen who were appointed to represent the American Medical Association at the last annual meeting.

REFLECTIONS OF A BELGIAN VISITOR.

Americans who find everything European superior to what we enjoy at home will do well to read the letter published by a Belgian physician in the *Gazette Médicale de Liége* (February 20, 1890), after a visit to this country. The letter closes as follows: "It cannot be denied that as regards hospital accommodations (to say nothing of other matters), young America has surpassed most of the old countries. What is the talisman that has so quickly produced such wonders in America while we, with no end of talent and desire, must struggle painfully along, and be satisfied often enough with a shabby result? We leave to others the task of solving this problem, merely observing that the absolute liberty of inception that prevails is sufficient to account for a large part of the results obtained. Whatever it may be, after viewing such public benefactions as these one turns to Belgium and is unable to restrain a feeling of sadness. What would not the worthy men who direct our own clinics accomplish if they had at their disposal but half the facilities and resources which are so freely offered in America! But we have the chaos of our restrictive laws, our superannuated regulations, our despotic administration, and under the paternal eye of our *Etat Providence* our bureaucrats find it difficult enough to live in peace!"

EDITORIAL NOTES.

MEDICAL ASSOCIATION OF MISSOURI.—The thirty-third annual meeting of this Association will be held at Excelsior Springs, Clay county, Mo., May 6, 7 and 8, 1890. Reports may be expected on scientific subjects from the following committees and sub committees: Surgery, Medicine, Education, Respiratory and Circulatory Organs, Obstetrics, Gynecology, Neurology and Psychology, Ophthalmology and Otology, Dermatology, Abdominal Surgery, Railroad Surgery, State Medicine, Diseases of Children, Collective Investigation, Anatomy and Physiology, Genito-Urinary Organs. Members are urged to be active in inviting their medical friends to become members. Many will receive a number of notices, which they are expected to send to friends. The medical men of Kansas are invited to be present.

RAILWAY FARES.—We are advised by Secretary Atkinson that through tickets to Nashville are not sold on several of the roads over which members will travel when attending the annual meeting. For the benefit of those of our members who desire to secure special rates upon return tickets we offer the following suggestions:

First.—Let each member, when he purchases his ticket, be sure to obtain from the *ticket agent* a certificate to the effect that he has paid full fare for the distance for which that ticket is issued. If he is obliged to purchase more than one ticket, let each certificate cover the mileage for which the ticket is issued.

Second.—These certificates must be presented to Secretary Atkinson at Nashville and receive his signature.

Third.—Certificates thus countersigned can be presented at the various railroad offices and return tickets will be issued at one-third rates.

POST-GRADUATE MEDICAL SCHOOL OF CHICAGO. — Drs. Charles Warrington Earle, Sanger Brown, Dudley C. Trott, Weller Van Hook and Ernest Lackner, have recently been elected to the Faculty of the Post-Graduate Medical School, in the following departments: Dr. Earle, Professor of Obstetric Operations; Dr. Brown, Professor of Mental and Nervous Diseases; Drs. Trott and Van Hook, Professors of Surgery; and Dr. Lackner, Professor of Diseases of Children. The Faculty will entertain the members of the Illinois State Medical Society with a lunch at Kinsley's on Tuesday evening, May 6, 1890.

DR. FELIX WOLFF, of Hamburg, has been entrusted with the medical management of the celebrated Sanatorium for Consumptives founded at Görbersdorf, in Silesia, by the late Dr. Brehmer. Dr. Wolff was for a long time chief assistant to Professor Curschmann, of Leipzig, and may justly be considered fully capable of conducting and augmenting this valuable institution, so justly famous throughout all Germany.

REGISTRATION IN MASSACHUSETTS.—The Massachusetts Legislature has at present under consideration a bill requiring the registration of physicians, and providing by fine or imprisonment, or both, for the punishment of those who without license shall permit the title of Doctor to be used in connection with their names. The bill is certainly in the interest of the people, and for their protection it should become a law.

ILLINOIS STATE MEDICAL SOCIETY. — The Committee of Arrangements have completed their preparations for its fortieth annual meeting, which is to convene in Chicago on May 6. On Tuesday, in addition to the morning and afternoon sessions, a lunch will be served from 6:30 to 7:30, after which prominent neurologists will discuss a paper to be presented by Dr. E. Ingals, upon the subject, "What Shall We Do with our Insane?" On Wednesday, after two sessions, the local profession will tender a lunch at the Auditorium, and an opportunity will be given to inspect this magnificent building. On Thursday two sessions will be held for the hearing of reports, the discussion of papers and the transaction of miscellaneous business.

TULANE UNIVERSITY, NEW ORLEANS.—Ninety-three students graduated at this institution at the annual Commencement, which occurred on April 1.

THE PITTSBURGH PHYSICIANS.—There is a movement among the physicans in Pittsburgh to pool their offices, if not their patients. They propose to erect a ten-story building, to be occupied by physicians only, who will thus have their offices in close proximity. Whether the project shall prove defensive or offensive remains to be seen.

FOOTBALL CASUALTIES.—The London *Lancet* contains an analysis of the football casualities during the winter season of 1889–90. By it there have been not less than thirteen deaths referable to this dangerous sport. The list of injuries, other than fractures, includes three of the spine and two of the knee or ankle. Of fractures there were thirty in all, of the collar-bone eleven, arms four, and legs fifteen. These are the cases that have found their way into the papers, but there are doubtless many others that are not reported in any way.

TOPICS OF THE WEEK.

GERM ANTAGONISM.

We shall not use the term germ in accordance with the strict definition of the same, but in accordance with its generally accepted use in relation to disease, meaning to embrace the source of all organic life in its various forms from the embryo up through the progressive stages of development, through which it may influence other living organisms.

The term life is a very comprehensive one when applied to the species or individual, for the known species of the universe visible to the naked eye alone in the fauna and flora are numbered by the hundreds of thousands. Then the species of the microscopical world are equally numerous, only they have not all received their name.

Then, as we grope on into that great and mysterious darkness, into which the microscope, endowed by human ingenuity, has, as yet, been unable to fathom, and there count the untold influences which, when combined under right circumstances, give distinct results as specific as any of the species of the visual world, then can we begin to comprehend the extent of *life*,

These so-called unseen combined influences, which are the cause of the specific results, when summed up are but germs with another name, either in their development in the grades upward in life, or downward in death. Thus, as we contemplate life we dwell upon death, for out of life comes death, and from death life gathers sustenance.

Is it not so that life devours life? or, in other words, feeds upon what has been created by life, and the cycle is completed where death joins life?

Let us, then, divest ourselves of the thoughtless idea that there is no life beyond our present power to examine; for who is prepared to say but that there is, and may yet be found, in the pre-microscopic world or the mystic realm unseen, the germs peculiar to itself and distinct in its nature, that give rise to certain effects denominated disease?

We say not that all germs produce disease any more than all seeds produce thistles or other noxious weeds; but as the microscopical world is opened to us we become aware that we are continually surrounded by germs of many varieties.

Miquel, for instance, has found that the ordinary atmosphere of a large city contains over 2,000 bacteria per cubic yard, while the air of the room of an old house in winter will show bacteria to the amount of 4,500 per cubic yard, and again that the wards of a long-used hospital will hold as many as 90,000 germs in the same space.

Observation seems to show that the different varieties require different conditions for development, each species varying in its susceptibility to different influences.

That certain diseases are epidemic or endemic undoubtedly depends upon the local and atmospherical influences which favor the development of those specific germs, and also on some influences producing in the system a condition or soil especially favorable for their reception. Or it may be that the local influences have multiplied, or permitted to multiply, the specific poisons or germs, to such an extent that the myriads in defiant hosts settle down upon and infect the unfortunate being, giving rise to the special symptomatology. It is probable, therefore, that we must have both the presence of the specific germs and also a fit condition of the system for their development.

For persons of good constitutions, and sometimes constitutions not entirely healthy, may pass through epidemics untouched, while others of a debilitated or of a certain condition, will be quick to receive or develop the disease.

It would no doubt astonish us if we could know how extensively the poisons that exist around and come in contact with us in different ways are resisted, rejected and overcome by the human organism.

That these poisonous influences are of a specific kind and give rise to a specific disease, is just as probable as that the germ of an oak acorn will grow an oak, instead of a pine, or that the germ of the wheat will produce wheat, instead of oats.

What are the diseases scarlatina, pertussis, diphtheria, but the infested human system overpowered by the rapidly reproduced specific poison peculiar to each respectively, and that these germs have only to exhaust the soil to become extinct, or, in other words, terminate the disease? Facts have been adduced which prove conclusively that the morbid poisons, whatever their form or classification may be, act in all cases not capriciously, but according to certain definite and fixed laws. Mingled with the blood yesterday, to-morrow, after having had a period of latency, swarming into innumerable myriads, possessing the whole field as a pest, devouring everything before them; in short, passing through the various stages of transition, germination, growth, maturity, and finally death.

Such are the remarkable laws of morbid poisons that many of them possess the extraordinary property of exhausting the constitution of all susceptibility to a second action of the same poison, as is the case with syphilis, scarlatina, measles, typhoid fever, small-pox, whooping-cough, and indeed with a considerable number of others. And in fact temporary protective influence is imparted by most all morbid poisons, for few persons suffer a second attack of the same specific epidemic disease, and at least the susceptibility of the constitution is temporarily impaired.

These morbid poisons or epidemic influences are now nearly, and soon probably will become, entirely synonymous with the term germ, as used in its ordinary broad meaning.

But that some of the numerous organic forms are actually necessary cannot be intelligently disputed; for, as Sir William Roberts says: "Without saprophytes there could be no putrefaction; and without putrefaction the waste materials thrown off by the animal and vegetable kingdoms could not be consumed. Instead of being broken up as they are now, and restored to the earth and air in a fit state to nourish new generations of plants, they would remain as an intolerable incubus on the organic world. Plants would languish for want of nourishment, and animals would be hampered by their own excreta, and by the dead bodies of their mates and predecessors. In short, the circle of life would be wanting an essential link. A large proportion of our food is prepared by the agency of saprophytes. We are indebted to certain bacteria for our butter, cheese and vinegar. Our daily bread is made with yeast, and to the yeast plant we also owe our wine, beer, and spirituous liquors."

This tiny cell, as a generator of alcohol, plays a larger part in the life of civilized man than any other tree or plant.

It is not necessary to look to that extreme of spontaneous production, for these germs readily enough multiply when they find the desired soil. They may exist either upon or in plant or animal, and be transmitted or communicated indifferently from animal to man or man to animal, or from vegetable to animal. For plants, as well as animals, have their peculiar parasites and parasitic diseases. They may be either vegetable or animal. The oak, apple or gall nut is a familiar example of the large animal parasite affecting a plant. Then there are the blights, mildew, smut, brand and other forms of fungi that are capable of propagation and transmission.

Yet each species is affected more particularly by its particular parasites, and these are themselves affected by their own parasites, and so on almost indefinitely, each one antagonized by some other. This series might be continued on down through the microscopic field into that which has not yet been explored, and including those influences or germs that affect the human organism in such a manner as to cause the condition we call disease; for who can dispute but that all infectious, epidemic, endemic and malarial diseases are but the result of a special multiplying parasite or microphyte infecting the blood or tissues of the body. That these special germs do not always multiply or develop, causing disease, is no more a cause of wonderment than that of germs of a higher order of life do not always find lodgment in a soil adapted for their development.

The seed of fireweed, for instance, may pass over hundreds of acres of tilled soil and miles of forest before it finds a suitable place prepared by fire for its growth. So, too, small-pox germs may be present, and some systems be very indifferent to their reception, because the soil is not just right. So, also, there is the inherent power of all organized life to resist oppression.

The power of the human system to resist poisonous influences is something remarkable; yet, when infested by rapidly multiplying hordes of life, it often succumbs for a time; or, in other words, the system is overpowered until the soil is exhausted and the germ dies for want of food, or is swallowed up by other germs.

And so we are only to stop and reflect of the many ways in which the body is beset by these antagonizing germs—the air we breathe swarming with its clouds of life, the food we eat and the water we drink permeated in every particle, and the primordial cells, whenever uncovered by accident or the surgeon, sought after with an insatiable and rapacious appetite by these mysterious beings —then we may begin to comprehend the unlimited power that relentlessly antagonizes back to the mother dust.—Wilder, *Times and Register*.

HUMANITY AND CONSTITUTIONALITY OF ELECTRICAL EXECUTION AFFIRMED.

On March 21st the Court of Appeals at Albany unanimously affirmed the judgment of the courts below, in the Kemmler murder case, declaring the Electrical Execution as constitutional, and holding that no error was committed on the trial of the accused. Kemmler, being in the custody of the warden of State-prison at Auburn, had applied for a writ of habeas corpus, claiming that he had been sentenced by the court of Oyer and Terminer to undergo a "cruel and unusual" punishment, contrary to the Constitution of the State and of the United States, and was threatened with deprivation of life without due process of law by reason of such illegal sentence and judgment of the court.

The Court of Appeals, through Judge O'Brien, now finds that: "the mode proposed is not cruel within the meaning of the Constitution, though unusual. On the contrary, all the judges agree with the court below that it removes every reasonable doubt that the application of electricity to the vital parts of the human body, under such conditions and in the manner contemplated by the statute, must result in instantaneous and consequently painless death."

On the same day that the decision of the Court of Appeals was announced, Judge Martine in the Court of General Session sentenced a murderer by the name of Slocum, a former professional base-ball player, to be executed at Sing Sing prison early in May in accordance with the provision of the new law.

A DEFINITION OF "UNPROFESSIONAL CONDUCT."

In a bill to regulate the practice of medicine, recently introduced in the Oregon Legislature, there is a clause providing for the revocation of licenses for "unprofessional conduct," which is defined in the bill as follows: First, the procuring, or aiding or abetting in procuring; a criminal abortion. Second, the employing of what are known as "cappers" or "steerers." Third, the obtaining of any fee on the assurance that a manifestly incurable disease can be permanently cured. Fourth, the wilfully betraying of a professional secret. Fifth, all advertising of medical business in which untruthful and improbable statements are made. Sixth, all advertising of any medicines or of any means whereby the monthly periods of women can be regulated or the menses reëstablished if suppressed. Seventh, conviction of any offense involving moral turpitude. Eighth, habitual intemperance.—*N. Y. Med. Record.*

ALCOHOLISM AND DISEASE.

Dr. Krafft-Ebing, of the University of Vienna, recognized in Europe as authority, thinks that no proper legal measure should be neglected that may combat intemperance, and that the formation of societies to counteract it should be urged. He declares that in 29 per cent. of all cases, intemperance is found to be the sole or chief cause, and in 30 per cent. more one of the causes, of mental disease.

PRACTICAL NOTES.

STROPHANTHUS.

Strophanthus is a most excellent remedy, especially where we have to deal with cardiac complications, such as fatty degeneration, dilatation, or the weakness which occurs in the course of long-continued diseases, as typhoid, phthisis, and in pneumonia. In these cases much of the depression is due to the accumulation of carbonic acid in the blood, which is not thrown off by reason of the depressed condition of the circulation; the shortness of breath of which these patients complain may be overcome by the administration of a cardiac stimulant. Diffusible stimulants like ammonia and alcohol are not always at hand, and we have no remedy which is so well calculated to arouse the drooping faculties through the instrumentality of the heart as strophanthus. Nux vomica is also a valuable cardiac stimulant, but its influence is more general and less direct upon the heart, while digitalis is a drug which, if long continued, defeats the very purpose for which it is used. The initial effect is that of a cardiac stimulant, but it carries with it indirect or secondary effects which will destroy the influence we desire to produce. Digitalis causes a contraction of the finer vessels of the arterial system, and, in order to overcome this effect and secure a more perfect distribution of the blood throughout the tissues, the force of the heart must be greatly increased. Now, while digitalis increases the power of the cardiac muscle, the general effect of alcoholic preparations, as I have previously explained to you, is one which is not altogether desirable. Strophanthus possesses the advantage over all others in producing immediate and continued effects upon the cardiac muscle; when given in the form of a reliable tincture, but a few minutes will elapse before the action of the drug will be apparent upon the circulation, and this effect will last for some time. When used hypodermically, the effect upon the heart, as shown by sphygmographic tracings, will be noticeable for several days or a week. The judicious employment of this drug will often be the means of saving life by tiding over instances of great depression which are liable to occur in the course of serious diseases. Five drops of the tincture may be given in a little water, and the dose repeated in urgent cases in the course of one or two hours.—Aulde in *N. Y. Med. Journ.*

PORRIGO DECALVANS.

M. Brocq prescribes the following local treatment for porrigo decalvans. After shaving the head the scalp is washed with hot soap and water. After epilation of the affected regions, they are washed with a $\frac{1}{500}$ or $\frac{1}{250}$ solution of corrosive sublimate. A few hours later the following ointment is rubbed in: ℞. Hog's lard, 30 grams; oil of sweet almonds, 4 grams; glycerine, 4 grams; hydragyrum vitriolatum, 1 gram. The sublimate lotions and the ointment are applied mornings and evenings. Epilation is repeated three or four times. M. Brocq sometimes also uses the following lotion: ℞. Water, 400 grams; glycerine, 100 grams; corrosive sublimate, 1 gram. M. Vidal applies a lotion of essence of turpentine to the scalp, then tincture of iodide, and finally rubs a thick layer of vaseline over the parts, which are then covered with gum plaster or laminated gutta-percha. M. Lailler, after epilation, applies frictions of the following preparation with a piece of linen: ℞. Water, 950 grams; glycerine, 50 grams; bichloride of mercury, 1 gram; hydrochlorate of ammonia, 1 gram. The linen which has been used for the frictions is placed on the head, which is then covered with a cap. The scalp is washed once a week. *The treatment lasts from twelve to fifteen months.* M. Besnier, after epilation, washes the head daily with warm water containing $\frac{1}{200}$ of boric acid and soap. The affected spots are rubbed every evening with vaseline, to which a very small quantity of acetate or sulphate of copper (0.50 to 1 per cent.) is added. If the scalp shows signs of inflammation $\frac{1}{20}$ of boric acid is added to the vaseline instead of the copper.—Paris Corr. *British Medical Journal.*

CODEINE IN OVARIAN PAIN.

Dr. Freund, of Strassburg, has recently used codeine in a large number of cases of abdominal pain from various causes, with the view of testing the assertions of Dr. Brunton that the drug is of especial use in intestinal or pelvic pain. His results seem to indicate that Brunton's views are somewhat exaggerated.

Pain from acute uterine affections, such as dysmenorrhœa, Freund found, was not as quickly relieved with codeine as with morphine, and the relief was of shorter duration. In pain from pelvic exudates and tubal disease the drug was also of but little value. In ovarian pain, however, whether from prolapse, oöphoritis, perioöphoritis, or neuralgia, the relief afforded by codeine was prompt, unmistakable, and more or less permanent even when small doses were given. The amount usually administered was about half a grain three times daily in pill form, and in but few cases was it necessary to increase this quantity. His experience coincides with Brunton's that no disagreeable or harmful effects follow the use of the drug. It does not stupefy, diminish the appetite, nor constipate. He prescribes the pill for one month after an attack of ovarian pain, and warmly recommends the drug for the above conditions.—*Therapeutische Monatshefte*, November, 1889.—*Medical News.*

FOREIGN CORRESPONDENCE.

LETTER FROM PARIS.

(FROM OUR REGULAR CORRESPONDENT.)

Experiments demonstrating that Physical Fatigue is a powerful factor in the Production of Infectious Diseases—The Etiology of Asthenopia—Treatment of Endometritis by the Curettage of the Uterus—On Spontaneous Fracture in Tabetic Subjects—A Formula for an Antiseptic Paper.

In a note by Drs. Charrin and Roger published in the *Revue Scientifique*, the authors endeavored to afford experimental confirmation of the generally received view that physical fatigue is a powerful factor in the production of infectious disease. They subjected a number of white rats to severe exercise (running in a rotating cage) for four consecutive days, at seven hours each day. Eight of these tired out animals were then inoculated with attenuated anthrax virus, four animals in a normal condition of health being inoculated with the same virus at the same time, in order to serve as a standard of comparison. The result was, that seven of the eight animals belonging to the first series succumbed, while all the animals of the second series survived. They thus explain the curious tendency of epidemics to break out among soldiers during great manœuvres and on campaign, and they urge that many a soldier is rendered susceptible to disease by fatigue who would otherwise have escaped.

In the *Journal d' Oculistique*, Dr. Fano has published a note on the etiology of asthenopia, or rather on a point connected with the idiopathic or essential form; that is to say, that which is not accompanied by any alteration whatever appreciable with the ophthalmoscope, whether in the refractory media, or in the deep-seated membranes. Asthenopia generally affects young subjects, those who are obliged to exercise their eyes for a long time on small objects. Ophthalmologists are not in accord on the nature of asthenopia. Some consider it as the result of a lesion of the nervous substance of the retina, while others consider it as a fatigue of accommodation for the vision of near objects. Dr. Fano classes himself with those of the first category. Besides the excessive work of the eyes producing a progressive weakening of the nervous influx of the retina, there are three other causes, having the same mode of action, and producing asthenopia, without excessive work of the organ of vision, viz.: venereal excesses, onanism and seminal losses. Dr. Fano concludes his note with the recommendation that when one is consulted by subjects affected with asthenopia, and if no explanation of the affection is to be found in the anatomical state of the eye as revealed by the ophthalmoscope, nor in the troubles of refraction, nor in the profession followed by the subject, trouble of the genital functions should be sought for. In combating these troubles, one would often cure a disease of the eye which had resisted a great number of external and internal medicaments.

At a recent meeting of the Société de Chirurgie, Dr. Bouilly read a note on the treatment of endometritis by the "curettage" of the uterus. The author gave the results he obtained since 1887. He practiced eighty-one curettages and he was able to follow sixty-nine cases, forty-five of which were in the town and thirty-six in the hospital. His rule of practice is, if there exists a complication of ectropion of the neck, or any lesion of the annexes, he would practice curettage only if a more radical operation had been performed, and he reserves the curette for endometritis accompanied with metrorrhagia, muco-purulent discharges, and severe pains. After anæsthesia, he dilates the neck in four hours with laminaria and, after scraping the interior, he paints it with the tincture of iodine, creasoted oil or the chloride of zinc. At the end of four days, he withdraws the vaginal tampons and commences antiseptic washings, unless there are still stains on the dressing, in which case he continues them. Of the sixty-nine cases, he had thirty-nine cures, and the results were more striking in hæmorrhagic metritis. In glandular endometritis he says it is preferable to amputate the neck, as the curette cannot scrape the bottom of the hypertrophied cul-de-sacs. If the annexes are diseased, curettage is insufficient. Dr. Bouilly concluded his note with the remark that curettage of the uterine cavity alone is the best procedure. In certain cases where there is a commencement of salpingitis, curettage or scraping sometimes gives good results. But if the discharges are under the dependence of a disease of the ovaries, these must first be removed.

In the *Gazette des Hôpitaux*, Professor Verneuil publishes a note on spontaneous fracture in tabetic subjects. The note was founded on a case under his care of painless bimalleolar fracture in the leg of a tabetic woman. He objects, however, to the term spontaneous and prefers that of pathological fracture, as no bone would break unless subjected to pressure or blows from without, or to strong muscular contraction. Fracture in tabetic subjects occurs most frequently in the lower extremities, whilst in other forms of general osseous fragility, it occurs with equal frequency in both the upper and lower limbs. In tabetic fracture the larger bones are more frequently broken. In thirty-eight collected cases the fracture occurred seventeen times in the femur, ten times in the bones of the leg, six times in the bones of the forearm, and thrice in the clavicle. In nearly 50 per cent. of cases of tabetic fracture more than one bone is broken, the number varying from two to eight. In consequence of the usual absence of pain, the fracture of tabetic subjects is often overlooked. Notwithstanding advanced pathological changes in the osseous structures, this form of fracture, especially when involving the diaphysis of a long bone, consolidates quickly, and with the formation of abundant callus.

The following formula for an antiseptic paper, published by the "Formulaire Mensuel," may be found useful: Bichloride of mercury, 20 grams; glycerine, 50 grams; distilled water, 1,000 grams; filtering paper, q. s. The paper should be soaked in the liquor, then dried and cut into small bands for the dressing of wounds. A. B.

AMERICAN MEDICAL ASSOCIATION.

List of Officers and Preliminary Programme of the Forty-first Annual Meeting,

To be held at Nashville, Tenn., May 20, 21, 22 and 23, 1890.

GENERAL OFFICERS.

President—E. M. Moore, M.D., New York.

Vice-Presidents—J. W. Jackson, M.D., of Missouri; H. H. Kimball, M.D., of Minnesota; J. H. Warren, M.D., of Massachusetts; T. B. Evans, M.D., of Maryland.

Treasurer—Richard J. Dunglison, M.D., lock box 1274, Philadelphia, Pa.

Permanent Secretary—Wm. B. Atkinson, M.D., 1400 Pine St., Philadelphia.

Local Secretary—G. C. Savage, M.D., Nashville, Tenn.

Librarian—C. H. A. Kleinschmidt, M.D., Washington, D. C.

Chairman Committee of Arrangements—Wm. T. Briggs, M.D., Nashville, Tenn.

The general Committee of Arrangements has very fully matured its plans. A social entertainment will be given at the Capitol on Tuesday, May 20, the first day on which the Association is to convene. We are advised that there are hotel accommodations for twenty-five hundred guests. The morning sessions will be held in the Vendome. The several Sections will be located in various halls convenient of access. At a point so central and so accessible there should be a full representation from all sections of the country. Not less than two thousand members should register at Nashville.

ADDRESSES AT THE GENERAL SESSIONS.

On General Medicine, by N. S. Davis, of Chicago, Ill.

On General Surgery, by Samuel Logan, of New Orleans, La.

On State Medicine, by Alfred L. Carroll, of New York.

PRELIMINARY PROGRAMME OF SECTIONS.

Section of Surgery and Anatomy.

Chairman—B. A. Watson, Jersey City, N. J.

Secretary—J. B. Deaver, Philadelphia, Pa.

1. Report of Several Cases of External Surgery of the Nose with Photographs, by Merrill Ricketts, Cincinnati.
2. Two Cases of Resection of Cæcum for Carcinoma with Remarks on Intestinal Anastomosis, by N. Senn. Milwaukee.
3. Left Inguinal Colotomy with Remarks upon other Operations, by J. McF. Gaston, Atlanta, Georgia.
4. Continuous Silk Suture for Wounds of the Intestine, with Experiments, by C. L. Lewis, New York.
5. The Management of Major Amputations, by John A. Wyeth, New York. Drs. Hunter McGuire and B. A. Watson will open the discussion.
6. Report of Cases of Hernia Relapsing after Different Methods of Radical Cure, by W. T. Bull, New York.
7. The Technique of Hysteromyomectomy, by Howard A. Kelly, Baltimore, Md.
8. The Dark Side of Supra Pubic Cystotomy with a Report of Cases, by H. O. Walker, Detroit, Mich.
9. John B. Deaver, Philadelphia.
10. The Necessary Peroxide of Hydrogen, by Robt. Morris. New York.
11. Excision in Irreducible Dislocation of Hip, by Charles Penrose, Philadelphia.
12. A Plea for Early Abdominal Section in Intestinal Obstruction, by J. G. Carpenter, Stanford, Ky.
13. Novel and Ideal Method of Knee-Joint Excision and Exploration, by T. S. K. Morton, Philadelphia.
14. Surgical Treatment of Biliary Obstruction, by Henry O. Marcy, Boston.
15. Joseph Price, Philadelphia.
16. Joseph Hoffman, Philadelphia.
17. R. H. Harte, Philadelphia.
18. Shot Wound of the Intestine with Report of Cases, by David Barrow, Lexington, Ky.
19. Operation of Radical Cure of Hernia in Early Infancy, by Thomas H. Manly, New York.
20. Paper on New and Improved Surgical Pump, by Elmer Lee, Chicago.
21. Treatment of Flat-Foot by Thomas' Method, by W. R. Townsend, New York.
22. Report of Gun Shot Wound of Brain, by J. Lee McComas, Oakland, Md.

Section of Obstetrics and Diseases of Women.

Chairman—Wm. Warren Potter, Buffalo, N. Y.

Secretary—Joseph Hoffman, Philadelphia.

1. Intra-Ligamentary Cysts, by W. H. Wathen, Louisville, Ky.
2. Primary and Ultimate Results of Vaginal Hysterectomy for Cancer, by Charles A. L. Reed, Cincinnati, Ohio.
3. Title not announced, Rufus B. Hall, Cincinnati, Ohio.
4. Gonorrhœal Disease of the Uterine Appendages, by J. M. Baldy, Philadelphia, Pa.
5. A Plea for Early Vaginal Hysterectomy in Cancer of the Uterus, by Franklin H. Martin, Chicago, Ill.
6. A Retrospect of Pelvic Surgery, by Joseph Price, Philadelphia, Pa.
7. The Treatment in Placenta Prævia, by Aug. P. Clarke, Cambridge, Mass.
8. Moot Points in the Doctrine of Placenta Prævia, by W. W. Jaggard, Chicago. Ill.
9. The Treatment of Placenta Prævia, based on an Experience of Thirty-four Cases, by G. H. Balleray, Paterson, N. J.
10. She Supposed it was Her Change of Life, by A. Vander Veer, Albany, N. Y.
11. Title not announced, by J. H. Kellogg, Battle Creek, Mich.
12. A Résumé of the Ideas of Paul Portal's Pratique des Accouchments, by John Bartlett, Chicago, Ill.

13. Psychical Results of Gynecological Operations, by I. S. Stone, Lincoln, Va.

14. Stricture of the Urethra in Women, by Ely Van de Warker, Syracuse, N. Y.

15. Title not announced, by John B. Deaver, Philadelphia, Pa.

16. Title not announced, by C. P. Penrose, Philadelphia, Pa.

17. Antiseptics in Obstetrics, by T. B. Greenly, West Point, Ky.

18. Hyperemesis Gravidarum, by E. W. Mitchell, Cincinnati, O.

19. Uterus Bilocularis, by L. H. Dunning, Indianapolis, Ind.

20. The Great Utility of Bleeding in Puerperal Convulsions, by John G. Meacham, Racine, Wis.

21. Title not announced, by Wm. E. Ashton, Philadelphia, Pa.

22. A Plea for the General Adoption of the Traction Forceps, by Joseph Hoffman, Philadelphia, Pa.

23. Surgical Treatment of Non-Pedunculated Abdominal Tumors, by Henry O. Marcy, Boston, Mass.

24. Extra-Uterine Pregnancy, with Cases, by E. E. Montgomery, Philadelphia, Pa.

25. Laparatomy for the Purpose of Restoring the Functions of the Tubes and Ovaries, by William M. Polk, New York, N. Y.

26. Abdominal Section; its Practical Success, by R. Stansbury Sutton, Pittsburgh, Pa.

27. The Intra-Peritoneal Ligature, by L. S. McMurtry, Louisville, Ky.

28. A New Operation for the Relief of Prolapse of the Anterior Vaginal Wall, by Andrew F. Currier, New York, N. Y.

29. Diseases of the Female Pelvic Organs, and when to Operate by Abdominal Section, by M. B. Ward, Topeka, Kansas.

30. Fistulous Escape of Ligatures After Ovariotomy, or Abdominal Operations, by Marie B. Werner, Philadelphia, Pa.

31. Drainage in Abdominal Surgery, by George Erety Shoemaker, Philadelphia.

32. The Diagnosis and Treatment of Ectopic Pregnancy, by Neil Macphatter, Denver, Col.

The attention of authors of incomplete titles is respectfully invited to the importance of forwarding to the Chairman at once a full subject title of their papers.

This list is made up in the order of the reception of the titles; the papers will be grouped by subjects as near as possible for the meeting. Authors whose titles are not announced are requested to send them to the Chairman without delay.

Section of State Medicine.

Chairman—John B. Hamilton, Washington, D. C., Surgeon-General U. S. M. H. S.

Secretary—Francis S. Bascom, Salt Lake City, Utah.

FIRST DAY.

1. Annual Address of the Chairman.

2. Report of the Committee on Meteorology, by N. S. Davis, Chairman.

3. Report of the Committee on School Hygiene, by D. F. Lincoln, Chairman.

4. The Hygiene of the Eyes of School Children, by Dudley S. Reynolds.

DISCUSSION ON FOREGOING PAPERS.

5. Government Aids to Public Health, by Walter Wyman, M. H. S.

SECOND DAY.

1. The Causation of Influenza and some Allied Diseases, with Suggestions for their Prevention, by Henry B. Baker, President American Public Health Association.

2. Observation on the Symbiosis of certain Microörganisms, as influenced by Low Temperatures, by Jos. J. Kinyoun, M. H. S.

DISCUSSION ON FOREGOING PAPERS.

3. Paper, subject to be announced, by George H. Rohé.

4. Election of Section officers for ensuing year.

EVENING SESSION.

The special order of the evening will be a paper by George M. Sternberg, U. S. A. It will be illustrated by the stereopticon.

THIRD DAY.

1. Our Urban African Population, by J. Berrien Lindsley.

2. Los Angeles County, Cal., as a Home for the Aged, by Jay H. Utley.

3. Advantages and Disadvantages of High Altitudes, by T. G. Horn.

4. Bacteriology, by Frank Billings.

5. A Comparison between our College Work and that of European Medical Schools, with some Thoughts on Free Trade in Medical Diplomas Manufactured Abroad, by S. O. L. Potter.

6. Paper, subject to be announced, by J. R. Briggs.

7. Miscellaneous Business.

Section of Ophthalmology.

Chairman—S. C. Ayres, Cincinnati, O.

Secretary—E. J. Gardiner, Chicago, Ill.

1. Address by the Chairman.

2. The Uses of Jequirity, by Wm. Cheatham, Louisville, Ky.

3. Jequirity in the Treatment of Diphtheritic Conjunctivitis, by A. E. Prince, Jacksonville, Ill.

4. A Danger in the Use of Jequirity heretofore Unmentioned, by T. E. Murrell, Little Rock, Ark.

5. Enucleation in Panophthalmitis, by J. E. Sinclair, Nashville, Tenn.

6. Functional Nervous Diseases, by A. R. Baker, Cleveland, O.

7. Sympathetic Ophthalmia, by C. M. Hobbey, Iowa City, Ia.

8. Report of a Case of Sympathetic Inflammation Two Weeks after Enucleation of the Injured Eye, by Geo. H. Goode, Cincinnati, O.

9. Tobacco; Its Effects upon the Eye-Sight, by Flavel H. Tiffany, Kansas City, Mo.

10. A Simple and Reliable Astigmometer, by F. C. Hotz, Chicago, Ill.

11. The Necessity for more Care in the Setting of Lenses when Prescribed for the Correction of Eye Faults, by J. J. Chisolm, Baltimore, Md.

12. Some Observations on the Correction of Low Degrees of Astigmatism, by T. E. Murrell, Little Rock, Ark.

13. Progressive Hypermetropic Astigmatism, by W. T. Montgomery, Chicago, Ill.

14. A Clinical Study of a Series of Cases Exhibiting Slight Macular and Perimacular Changes, by G. E. de Schweinitz, Philadelphia, Pa.

15. Report of a Case of Transplantation without a Pedicle for Cicatricial Ectropion. Blepharoplasty by Wolf's Method, by J. Morrison Ray, Louisville, Ky.

16. Some Points worthy of Consideration in the Operation for the Extraction of Cataract, by J. W. Wright, Columbus, O.

17. Case of Pemphigus of the Eyelids, by D. Emmett Welsh, Grand Rapids, Mich.

18. Tests of Visual Acuteness and the Standard of Normal Vision, by Edw. Jackson, Philadelphia Pa.

19. (a) Report of a Case of Left Lateral Homonymous Hemianopsia Associated with a Wound of the Occipito-parietal Region of the Right Side of the Head.

20. (b) Exhibition of an Instrument for the Measurement of the Radius of Curvature of Lenses, by R. Tilley, Chicago, Ill.

21. The Amblyopia of Strabismus, by *Jno. F. Fulton*, St. Paul, Minn.

22. The Increase of Blindness in the United States and

the Importance of its Prevention, by J. L. Minor, Memphis, Tenn.

23. Eye Strain as a Cause of Headaches, by B. J. Baldwin, Montgomery, Ala.

24. The full Correction of Hyperopia with Convex Glasses, by W. Franklin Coleman, Chicago, Ill.

25. Treatment of Conjunctivitis Granulosa, by Peter D. Keyser, Philadelphia, Pa.

26. A Case of Static Lenticular Astigmatism, Acquired by Long-continued Use of Spectacles having a Faulty Position. By George Frothingham, Detroit, Mich.

27. (*a.*) Hæmorrhage after Cataract Extraction; (*b.*) Boracic Acid and Massage in Pannus, by C. R. Holmes, Cincinnati, O.

Section of Laryngology and Otology.

Chairman—John O. Roe, Rochester, N. Y.
Secretary—Frank H. Potter, Buffalo, N. Y.

1. The Value of Different Operations for Nasal Stenosis, by Max Thorner, Cincinnati, O.

2. An Anomalous Condition of the Human Voice, by Alexander W. MacCoy, Philadelphia, Pa.

3. Suggestions on the Use of Electricity in Ear Diseases, by E. L. Jones, Florence, Ala.

4. Glandular Hypertrophy at the Base of the Tongue, by A. B. Thrasher, Cincinnati, O.

5. Fractures and Concussions (Contra Coup) of the Temporal Bone as a Cause of Deafness, by Laurence Turnbull, Philadelphia, Pa.

6. The Galvano-Cautery and its Use in Certain Nasal Affections, by Wm. Cheatham, Louisville, Ky.

7. Pathology and Treatment of Tinitus Aurium, by A. A. Hubbell, Buffalo, N. Y.

8. The Importance of Surgical Means Applied to the Naso-Pharynx in the Relief of Naso-Pharyngeal and Middle Ear Catarrh, by C. W. Richardson, Washington, D. C.

9. How Can We Best Utilize for Scientific Study the Clinical Material so Abundant in Large Dispensaries? by O. B. Douglas, New York, N. Y.

10. Salol in Acute Pharyngitis and Tonsillitis, by Jonathan Wright, Brooklyn, N. Y.

11. Imperforate Auditory Canal, by Seth S. Bishop, Chicago, Ill.

12. On Laryngismus, by J. H. Bryan, Washington, D. C.

13. Hygiene of the Upper Air Tract, by J. E. Schadle, St. Paul, Minn.

14. Note on Nasal Hæmorrhage, by Frank H. Potter, Buffalo, N. Y.

15. Discussion on Croup and Diphtheria:

I. Their Identity, by D. Bryson Delavan, New York, N. Y.

II. Their Duality, by J. Solis-Cohen, Philadelphia, Pa.

III. Treatment: (*a*) Medical, by William H. Daly, Pittsburg, Pa. (*b*) Surgical, by F. E. Waxham, Chicago.

16. Throat Deafness, by E. Fletcher Ingals, Chicago.

17. Surgical Treatment of Chronic Spasm of the Larynx, by J. P. Creveling, Auburn, N. Y.

18. Tinnitus Aurium and Nasal Surgery, by H. Holbrook Curtis, New York.

19. Precautions to be Observed in Intra-Nasal Operations, by Carl Seiler, Philadelphia, Pa.

20. Aural Complications from Chronic Catarrhal Inflammations of the Nose and Throat, by W. I. Edwards, Nashville, Tenn.

Papers have also been promised by R. Norris Wolfenden, London, England; Carl Seiler, Philadelphia; E. L. Shurly, Detroit; Clarence C. Rice, New York, and M. F. Coomes, Louisville, Ky.

All those contemplating reading papers before this Section are requested to forward their titles to the Secretary at once.

Section of Diseases of Children.

Chairman—I. N. Love, St. Louis, Mo.
Secretary—E. F. Brush, Mt. Vernon, N. Y.

1. Chloral Hydrate in the Treatment of Scarlatina, by J. C. Wilson, Philadelphia, Pa.

2. The Value of Sulphonal in Children's Diseases, by W. C. Wile, Danbury, Conn.

3. Value of Atropia in Enuresis, by R. B. James, New York, N. Y.

4. Croup, by E. R. Early, Ridgeway, Pa.

5. Significance of High Temperature in Children, by W. L. Stowell, New York, N. Y.

6. Therapeutical Value of Antipyrin in Diseases of Children, by S. Henry Dessan, New York, N. Y.

7. Phenacetin in Whooping-Cough, by John T. Winter, Washington, D. C.

8. Further Observations Upon Tooth and Mouth Disease in the Relation to Human Scarlatina as a Prophylactic, by I. W. Stickler, Orange, N. J.

9. Tinea Capitis, by H. T. Dixon, Evansville, Ind.

10. Overmedication During Childhood, by B. F. Hart, Sweetsprings, Mo.

11. The Psychical Factor in Pædiatrics, by Frank Woodbury, Philadelphia, Pa.

12. Milk Sugar in Infant Feeding, by E. F. Brush, Mt. Vernon, N. Y.

Section of Medical Jurisprudence.

Chairman—T. B. Evans, Baltimore, Md.
Secretary—T. D. Crothers, Hartford, Conn.

The following is a list of titles of papers which will be read before this Section. The papers in the first and third sessions will be arranged differently, and include many others that are not announced.

FIRST SESSION.

Clinical Jurisprudence.—Reports on medico-legal questions occurring during the year. Relation of cases, etc.

1. President's Address, Responsibility in Dipsomania, by Thomas B. Evans, Baltimore, Md.

2. Medico-Legal Significance of Facts Common to Insanity and Inebriety, by T. L. Wright, Bellefontaine, O.

3. The Psychopathic Sequences of Hereditary Alcoholic Entailments, by Charles H. Hughes, St. Louis, Mo.

4. Some New Medico-Legal Questions Relating to Inebriety, by T. D. Crothers, Hartford, Conn.

5. The Medico-Legal Relation of the Physician to the Inebriate and Inebriety, by I. N. Quimby, Jersey City, N. J.

6. The Need of a New Criminal Jurisprudence Affecting Inebriety, by Norman Kerr, London, Eng., delegate from British Medical Association.

7. Subject not received, by Lewis D. Mason, Brooklyn, N. Y.

8. The Medico-Legal Relations of Central Paralysis, by D. R. Brower, Chicago.

SECOND SESSION.

Surgical Jurisprudence.—Papers on medico-legal questions in surgery and toxicology, etc. Discussion.

1. Medico-Legal Relations of Abdominal Surgery, by Albert Vanderveer, Albany, N. Y.

2. Medico-Legal Bearings of the Battey Operation, by Robert Battey, Rome, Ga.

3. What is the Medico-Legal Status of the Abdominal Surgeon? by William Porter, Buffalo, N. Y.

4. Medico-Legal Aspects of Gunshot Wounds of the Abdomen, by Nicholas Senn, Milwaukee, Wis.

5. The Responsibility in Cases of Intestinal Obstruction, by B. T. Shimwell, Philadelphia, Pa.

6. Some Special Reasons Why the Laparotomists Should Consider the Medico-Legal Aspects of Abdominal Surgery, by Henry O. Marcy, Boston, Mass.

7. Exploratory Laparotomy from a Medico-Legal Standpoint, by William C. Wile, Danbury, Conn.

8. The Medico-Legal Responsibility in Abdominal Surgery, by J. D. S. Davis, Birmingham, Ala.

9. The Medico-Legal Questions Which Arise from the Mistakes of Abdominal Tumors for Pregnancy, by David W. Yandell, Louisville, Ky.

10. The Legal Responsibility in Surgery of the Abdomen, by Thomas H. Manly, New York, N. Y.

THIRD SESSION.

Medico-legal question in the practice of medicine, including obstetrics and insanity, etc. Discussion.

1. The Legal Aspects of Spinal Concussion, by S. V. Clevenger, Chicago, Ill.
2. Medico-Legal Relations Between Railway Surgeons, the Company and the Injured, by R. Harvey Reed, Mansfield, O.
3. Traumatic Neurosis: Its Medico-Legal Relations, by Frederick Peterson, New York, N. Y.
4. Injury Inflicted by Unscrupulous Malpractice Suits, by Wm. F. Waugh, Philadelphia, Pa.
5. Newspaper Canards as Factors in the Insane Hospital Management, by James G. Kiernan, Chicago, Ill.
6. The Relation of the Physician to the Problem of the Correction of Vice, by G. Frank Lydston, Chicago.
7. Some Facts Concerning the Jurisprudence of Medical Electricity, by Clark Bell, Esq., New York, N. Y.

Authors of papers whose titles are not announced, and others who expect to read papers or present records of cases, are requested to send them to the Secretary at Hartford, Conn., at once.

Section of Practice of Medicine, Materia Medica and Physiology.

All communications should be addressed to the Chairman, Dr. J. H. Musser, Fortieth and Locust streets, Philadelphia, as the Secretary has been called to Europe.

FIRST DAY.

1. Address of Chairman.
2. Filaria, with the presentation of a patient, by —De Saussure, Charleston, S. C.
3. Heart Affection at High Altitudes, by S. E. Solly, Colorado Springs, Col.
4. Calomel as a Diuretic, by George Fackler, Cincinnati, O.
5. The Treatment of Insomnia and Neuralgia by Butyl Chloral Hydrate, by Hobart A. Hare, Philadelphia.
6. Recent Clinical Notes on Exophthalmic Goitre, by E. D. Furgeson, Troy, N. Y.
7. On the Treatment of Bright's Disease With Chloride of Sodium, by A. Memminger, Charleston, S. C.
8. Cleanliness and Pure Air in Maternity Work, by Joseph Price, Philadelphia.
9. Antiseptics, by Hiram Corson, Conshohocken, Pa.
10. Rheumatism and its Treatment by the Turkish Bath, by C. H. Shepard, Brooklyn, N. Y.
11. The General Action of Phenacetin, by George H. Pierce, Danbury, Conn.
12. Clinical Notes on Alterations in the Respiratory Rhythm, by Wm. A. Edwards, San Diego, Cal.

SECOND DAY.

13. The Continued Fevers of the South. Discussion opened by W. W. Johnston, Washington, D. C., and J. R. Furniss, Selma, Ala. 1. Their Nature, by John P. Wall, Tampa, Fla.; E. Marechal, Mobile, Ala.; R. Matas, New Orleans, La.; T. J. Happel, Trenton, Tenn.; D. C. Ewing, Batesville, Ark.; F. L. Sim, Memphis, Tenn.; J. C. Shepard, Winchester, Tenn. 2. The Differential Diagnosis, by George Dock, Galveston, Texas; B. F. Humphries, Hawkins, Texas; James E. Reeves, Chattanooga, Tenn. 3. The Renal Sequelæ of Malaria, by A. Memminger, Charleston, S. C.
14. The Ocular Complications of Malaria, by G. E. de Sweinitz.
15. Continued Fever of Charleston, S. C., or Gastro-Hepatic Fevers, by Thomas Legare, Charleston, S. C.
16. Malaria and the Causation of Periodic Fevers, by H. B. Baker, Lansing, Mich.
17. Chemical and Bacteriological Examination of Some Water Supposed to Have Caused Typhoid Fever, by Victor C. Vaughan, Ann Arbor, Mich.
18. Specific Treatment of Typhoid Fever, by J. H. Van Eman, Kansas City, Mo.
19. Naphthol in Typhoid Fever, by L. Wolff, Philadelphia.
20. Has Progress Been Made in the Medicinal Treatment of Typhoid Fever? by T. J. Happel, Trenton, Tenn.
21. The Modern Treatment of Rheumatism, by John V. Shoemaker, Philadelphia.
22. Facial and Thoracic Deformities Incident to Obstruction of the Naso-Pharynx, by W. E. Casselberry, Chicago.
23. Sulphonal, the Conditions and Limitations of its Value as a Hypnotic, by Henry M. Field, Newton, Mass.
24. Neurasthenia, by I. D. Wiltrout, Hudson, Wis.
25. A Substitute for the Kymographeon, by John P. Sawyer.

THIRD DAY.

26. Abuses of Antipyretic Medication, by S. Solis-Cohen, Philadelphia, Pa.
27. Oxygen, its True Value as a Therapeutic Agent, by J. M. French, Cincinnati, O.
28. Note on a Case of Fatal Leukæmia following Prolonged Lactation, by W. W. Jaggard, Chicago.
29. The Therapy of Tuberculosis Pulmonum, by James T. Whittaker, Cincinnati, O.
30. The Therapy of Phthisis Pulmonalis, by E. L. Schurley, Detroit, Mich.
31. Bright's Disease as a Neurosis, by John A. Benson, Dunning, Ill.
32. Functional Albuminuria, by Wm. B. Davis, Cincinnati, O.
33. On the Management of Obstinate Dropsies, by Jas. Tyson, Philadelphia.
34. Reform Therapeutics, by Joseph H. Warren, Boston, Mass.
35. *Hydrophobia*: (*a*) Clinical Study of Hydrophobia, with Statistics and Report of Cases, by Harold N. Moyer, Chicago; (*b*) Pasteur's Preventive Inoculation of Rabies, by A. Lagorio, Chicago. Discussion by C. W. Dulles, Philadelphia.
36. Antiseptics, by Hiram Corson, Conshohocken, Pa.

FOURTH DAY.

37. Consideration of Auto-intoxication from Nitrogenous Elements of the Food when Taken in Excess, by John P. Sawyer, Cleveland, O.
38. Influenza, by J. B. Johnson, Washington, D. C.
39. Water, the Parallelism of its Uses in the Physical World and the Human Cosmos, by G. W. Drake, Chattanooga, Tenn.
40. Some of the Vagaries of the Grip, by C. F. Ulrich, Wheeling, W. Va.
41. Present Status of Forced Respiration, by George E. Fell, Buffalo, N. Y.
42. Pneumonia and Bronchitis following La Grippe, by D. M. Wick, New Hartford, Iowa.
43. On the Treatment of Bright's Disease with Chloride of Sodium, by A. Memminger, Charleston, S. C.
44. General Aspects of Bacteriology and Medicine, by H. C. Markham, Independence, Iowa.
45. The Etiology, Pathology and Treatment of Typhoid Fever, by J. McFadden Gaston, Atlanta, Ga.
46. Title not supplied, by Geo. Dock, Galveston, Tex.
47. Bacteriology in Medicine, by Frank Billings, Chicago, Ill.

Section of Dermatology and Syphilography.

Secretary—William T. Corlett, Cleveland, O.

FIRST DAY, TUESDAY, MAY 20.

Section meets at 2 P. M. each day.

1. Address by the Chairman, Recent Advances in Dermatology and Syphilography.
2. The Relative Value of Mercury and the Iodine Compounds in the Treatment of Syphilis. Discussion by L. Duncan Bulkley, New York, William T. Corlett, Cleveland.
3. A Peculiar Case of *Addison's Disease*, by A. H. Ohmann-Dumesnil, St. Louis.
4. The Care and Treatment of the Nails, by J. V. Shoemaker, Philadelphia.

5. Herpes Zoster Gangrinosa of Koposi. A Report of Two Cases, by B. Merrill Rickets, Cincinnati.

6. Some Recent Observations of Leprosy, by P. S Abraham, London.

Appointment of Committee to nominate officers for the ensuing year.

SECOND DAY, MAY 21.

Election of Officers (time fixed by By-Laws).

7. The Etiology and Treatment of Acne. Discussion by Carl Seiler, Philadelphia, B. Merrill Ricketts, Cincinnati.

8. On the Preparation and Employment of Ointments in Diseases of the Skin, by L. Duncan Bulkley, New York.

9. Diseases of the Skin of Nervous Causation. A Report of Two Cases by William T. Corlett, Cleveland.

10. A few more Remarks on Dermatitis Herpetiformis, by A. Ravogli, Cincinnati.

11. Answers to Questions Deposited in Question Box Relating to Dermatology and Syphilography.

THIRD DAY, THURSDAY, MAY 22.

12. Sycosis, its Pathology and Treatment. Discussion by J. V. Shoemaker, Philadelphia, A. Ravogli, Cincinnati.

13. Demonstration of Syphilitic Spores in Blood, by Ephraim Cutter, New York.

14. The Scarlatiniform Erythema of Typhoid Fever, by A. H. Ohmann-Dumesnil, St. Louis.

15. Massage in Skin Diseases, by J. Leslie Foley, Montreal.

16. An Eruption Following the Use of Boracic Acid, with Colored Plates, by William T. Corlett, Cleveland.

17. Further Observations on Paget's Disease of the Nipple, by Louis Wickham, of the Hôpital St. Louis, Paris.

18. Answers to Questions Deposited in Question Box.

Section of Dental and Oral Surgery.

Chairman—J. L. Williams, Boston, Mass.

Secretary—Eugene S. Talbot, Chicago, Ill.

1. Address by Chairman, J. L. Williams, of Massachusetts.

2. Relation of Tropho-Neuroses to Disease of the Mouth and Jaws, with Special Reference to Syphilitic Necrosis, by G. Frank Lydston, Chicago, Ill.

3. How the Vascular Supply is Connected with the Teeth, by A. O. Hunt.

4. Vascular Tumors of the Mouth, and Treatment by Injection, by John S. Marshall, Chicago, Ill.

5. Electro-Therapeutics, by John L. Gish.

6. The Value of Illustration in the Lecture-Room, by L. D. McIntosh, Chicago, Ill.

7. Adenoid Growths and their Effect on the Mouth, by E. E. Briggs.

8. Cure for Cleft Palate by a Double Flap Operation and Closure with the Buried Tendon Suture, by Henry O. Marcy, Boston, Mass.

9. Hereditary Dental Anomalies, by Wm. S. Sherman.

10. Diseases of the Gums, and their Treatment, by J. Tait.

11. Irregularities of the Teeth Caused by Neurotic Conditions, by E. S. Talbot, Chicago, Ill.

Committee on Dietetics.

1. Diet in Consumption, by Herbert Judd, Galesburg, Ill.

Instructions to Delegates.

"The delegates shall receive their appointment from permanently organized State Medical Societies, and such County and District Medical Societies *as are recognized by representation in their respective State Societies*, and from the Medical Department of the Army and Navy, and the Marine-Hospital Service of the United States.

"Each State, County and District Medical Society entitled to representation shall have the privilege of sending to the Association one delegate for every ten of its regular resident members, and one for every additional fraction of more than half that number; *provided*, however, that the number of delegates for any particular State, Territory, county, city or town shall not exceed the ratio of one in ten of the resident physicians who may have signed the Code of Ethics of the Association."

Members by Application.—Members by Application shall consist of such members of the State, County and District Medical Societies entitled to representation in this Association as shall make application to the Treasurer and accompany said application with a certificate of good standing, signed by the President and Secretary of the society of which they are members, and the amount of the annual membership fee, five dollars. They shall have their names upon the roll, and have all the rights and privileges accorded to *permanent members*, and shall retain their membership upon the same terms.

The following resolution was adopted at the session of 1888:

"That in future each delegate or permanent member shall, when he registers, also record the name of the Section, if any, that he will attend, and in which he will cast his vote for Section officers.

Secretaries of Medical Societies as above designated are earnestly requested to forward, *at once*, lists of their delegates.

Also, that the Permanent Secretary may be enabled to erase from the roll the names of those who have forfeited their membership, the Secretaries *are, by special resolution*, requested to send him annnally a corrected list of the membership of their respective societies.

AMENDMENTS TO THE BY-LAWS.

Offered by Dr. A. L. Gihon, United States Navy.

That the first day of the meeting of this Association shall be on the first Wednesday of May or June respectively, instead of Tuesday.

By Dr. X. C. Scott, Ohio:

That the Committee on State Medicine be abolished, inasmuch as the Section on State Medicine occupies the entire ground.

RAILROAD ARRANGEMENTS.

Members of the Association who design to attend the annual meeting at Nashville, May 20, 1890, will be granted a reduction in their return railroad fare only, under the following conditions:

First.—Each person must purchase a first-class ticket (either limited or unlimited) through to the place of meeting, for which he will pay the regular tariff fare, and upon request the ticket agent will issue to him a certificate of such purchase (Form 2).

Second.—If through tickets cannot be procured at the starting point the person will purchase to the most convenient point were such through ticket can be obtained, and there repurchase through to the place of meeting, requesting a certificate properly filled out by the agent at the point where the repurchase is made.

Third.—The reduced rate for the return journey will only apply to points to which through tickets are on sale at the place of meeting, and at which through tickets to the place of meeting were purchased. If through tickets to the starting point can not be procured at the place of meeting, the person will purchase to the most convenient point to which such through ticket can be obtained.

Fourth.—Tickets for the return journey will be sold by the ticket agents at the place of meeting, at one-third the highest limited fare, only to those holding certificates (Form 2), signed by the ticket agent at the point where the through ticket to the place of meeting was purchased, and countersigned by the secretary or clerk of the convention, certifying that the holder has been in attendance upon the convention.

Fifth.—It is absolutely necessary that a certificate be procured, as it indicates that the full fare has been paid for the going journey, and that the person is therefore entitled to the excursion fare returning. It will also determine the route via which the ticket for return journey should be sold, and without it no reduction will be made.

Sixth.—Tickets for return journey will be available for continuous passage only, no stop-over privileges being allowed on tickets sold at less than full fare. Certificates will not be honored unless presented within three days after the date of adjournment of the convention.

Seventh.—Ticket agents will be instructed that excursion fares will not be available unless the holders of certificates are properly identified, as above described, by the secretary or clerk, on the certificate, which identification includes the statement that one hundred or more persons, who have purchased full fare tickets for the going passage, and hold properly receipted certificates, have been in attendance at the meeting.

The certificates are not transferable, and the signature affixed at the starting point, compared with the signature to the receipt, will enable the ticket agent to detect any attempted transfer.

N.B. Please read carefully the above instructions; be particular to have the certificates properly filled and certified by the railroad agent from whom you purchase your going ticket to the place of meeting, as the reduction on return will apply only to the point at which such through ticket was purchased.

Committee of Arrangements, Dr. William T. Briggs, Nashville, Tenn. Wm. B. Atkinson, Perm. Sec'y.

BOOK REVIEWS.

Cancer of the Rectum Especially Considered with Regard to its Surgical Treatment. Jacksonian Prize Essay. By Harrison Cripps, F.R.C.S. Asst. Surg. St. Bartholomew's Hosp.; Jacksonian Prize Essayist, R.C.S., 1876; Asst. Surg. Royal Free Hosp., etc. Third Edition. London: J. and A. Churchill. 1890.

This is the ideal of scientific monographs. The original essay has undergone considerable alterations since it was first presented by the author, and as each alteration has been the result of much experience and observation, in its present form the work forms a most valuable contribution to surgical literature. The illustrations which are models of accuracy and beauty, deserve all the more praise from the fact that they were nearly all drawn by Mr. Cripps, while some of them were lithographed by him as well. The illustrations are very numerous, and pertain to the normal and morbid anatomy, and histology of the parts.

The subject matter, which is clear and concise, is divided into the following topics:

1. Anatomy of the rectum and the function of its mucous membrane.
2. Cancer of the rectum—Etiology.
3. Cancer of the rectum—Pathology.
4. Cancer of the rectum—Symptoms.
5. Cancer of the rectum—Differential diagnosis.
6. Cancer of the rectum—Treatment by excision.
7. Cancer of the rectum—Treatment by colotomy.
8. Cancer of the rectum—Palliative treatment.
9. Cancer of the rectum—Tables of cases.
10. Cancer of the rectum—Selected illustrative cases.

MISCELLANY.

Official List of Changes in the Stations and Duties of Officers Serving in the Medical Department, U. S. Army, from April 19, 1890, to April 25, 1890.

By direction of the Secretary of War, Major Washington Matthews, Surgeon, is relieved from duty in the Surgeon-General's office, this city, and will report in person to the commanding officer, Ft. Wingate, N. M., for duty at that station. Par. 6, S. O. 90, A. G. O., Washington, April 17, 1890.

By direction of the Secretary of War, Major Peter J. A. Cleary, Surgeon, is relieved from duty at Ft. Wingate, N. M., and will report in person to the commanding officer, Mount Vernon Bks., Ala., for duty at that station, and by letter to the commanding General, Div. of the Atlantic. Par. 6, S. O. 90, A. G. O., Washington, April 17, 1890.

Capt. Louis A. La Garde, Asst. Surgeon, is granted leave of absence for twenty-three days, on account of sickness, upon surgeon's certificate of disability, in extension of leave of absence for seven days granted him by order 17, Ft. Assiniboine, Mont., with permission to apply to the Adjutant General of the Army for an extension of one month on Surgeon's certificate of disability. Par. 4, S. O. 43, Dept. Dak., April 14, 1890.

Capt. Henry I. Raymond, Asst. Surgeon U. S. A. (Newport Bks., Ky.) is hereby granted leave of absence for twenty-five days, to commence on or about May 2, 1890. Par. 5, S. O. 91, Div. of the Atlantic, April 19, 1890.

By direction of the Secretary of War, the following changes of stations of officers of the Medical Department are ordered:

Capt. Henry S. Kilbourne, Asst. Surgeon, from Vancouver Bks., Wash., to Willet's Point, N. Y.

Capt. William W. Gray, Asst. Surgeon, from Ft. Maginnis, Mont., to Ft. Sherman, Idaho.

Capt. John M. Banister, Asst. Surgeon, from Ft. Sherman, Idaho, to Ft. Stanton, N. M. Par. 1, S. O. 93, A. G. O., April 21, 1890.

By direction of the Secretary of War, Major Robert H. White, Surgeon, now on duty at Ft. Meyer, Va., will report in person to the Superintendent of the U. S. Military Academy, West Point, N. Y., for temporary duty as post surgeon during the absence of Major Henry McElderry, Surgeon, as a member of the Army Medical Board, New York City. Upon the return of Major McElderry to duty at West Point Major White will return to his proper station. Par. 4, S. O. 94, A. G. O., Hdqrs. of the Army, April 22, 1890.

Official List of Changes in the Medical Corps of the U. S. Navy for the Week Ending April 26, 1890.

W. K. Scofield, commissioned a Medical Director from February 8, 1890.

Daniel McMurtrie, commissioned a Medical Inspector from February 8, 1890.

E. S. Bogert, commissioned an Asst. Surgeon from April 16, 1890.

L. W. Spratling, commissioned an Asst. Surgeon from April 16, 1890.

Surgeon H. M. Martin, reported his return home and granted sick leave.

Medical Inspector T. Woolverton, detached from Navy Yard, Washington, D. C., and wait orders.

P. A. Surgeon H. G. Beyer, ordered to delay reporting on board the "Yantic" until further instructed.

THE
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ORIGINAL ARTICLES.

VOLUNTEER SANITARY ORGANIZATIONS AS AN AID TO OFFICIAL BOARDS OF HEALTH.

Read in the Section of State Medicine at the Fortieth Annual Meeting of the American Medical Association, June, 1889.

BY HORATIO R. STORER, M.D.,
OF NEWPORT, R. I.

The question that I am desired to present to you has been often discussed, generally, however, from a merely abstract standpoint. Viewed from the position of public boards, voluntary assistance, even if well organized, has too often appeared interference, while upon the other hand, the private citizen is inclined to criticise the average board official as indolent and the creature of red tape, or else too zealous and inclined to magnify his office.

TWO FIELDS FOR SANITATION, DISTINCT FROM EACH OTHER.

It will be my endeavor to avoid these extremes, and to show from a practical experience in this matter of nearly a dozen years, that in American communities there exist two distinct fields of operation. They are side by side, and necessarily everywhere present, though in some places more markedly so than in others. With the limitation that the law provides as to the supervision of private households by civic or State officials, in the absence of epidemics or complaints of a nuisance, this can be attained, if anything like completeness of result is desired, only by a method of surveillance wholly distinct from that provided by the public authorities.

THE PRIVATE FIELD REACHED ONLY FROM WITHIN.

Domestic privacy, which means not merely that of the family circle, but the retirement of the home water-closet and bath-room, the chamber ventilation, the furnace air supply, the first disposal of the laundry and kitchen waste, can hardly be reached save upon personal invitation from the head of the household. This entrance is not likely to be given to representatives of the press; still less, to the town constable. The family plumber knows of some of the conditions that are present; so does the family carpenter, and so also the family physician. This knowledge is, however, all of it of a confidential character, and if asked for outside would not be certain to be given.

The only key to the situation is through voluntary admission from within, and this is a privilege hardly to be expected save as the outcome of a purely self-interested motive upon the part of the occupant of the premises.

NEED OF INSPECTIONS.

Dwellings, like their owners, grow old and decay. As even infants have their diseases, so do also the newest residences. The rule concerning every house, no matter how recent its date, should be that it requires a thorough periodical inspection, at least once each year. The "Spring cleaning" should be a virtual taking account of stock, and employed as the opportunity of ascertaining defects and of making all necessary alterations and repairs. This is essential for the protection of its own occupants; but since dwellings like individuals become the subject of infectious disease, it also is necessary for the safety of its neighbors. As owners are usually careless and nearly as often incompetent for the purpose, the examination should be made by a specially skilled adept. How then to obtain admission for the practical sanitarian to the most secret recesses of a private house?

Self-interest, as has been implied, is the most potent of all motives that influence mankind. Formerly the mere idea of domestic inspection, otherwise than by the owner, would have been laughed at. Till of late, if a pipe leaked or burst, the plumber was sent for, repaired it, and then took his leave. If a privy was foul it was emptied, just as in croup, scarlet fever and typhoid the physician was summoned, attended the patient till death or recovery occurred, and then discontinued his visits.

With the progress of popular knowledge it is becoming appreciated that in plumbing and scavenging, and in the practice of medicine as well, prevention is far better than cure, though it is still through preventable zymotic disease that almost every household is thinned of its dearest members; and that when such misfortune has occurred, there remain effects that, if not neutralized, may become doubly disastrous and wide spreading.

INSPECTIONS REQUIRED BY SELF-INTEREST.

At this point, self-interest, well understood, assumes another phase. The money formerly so lavishly spent upon the physician, the pharmacist and the sick nurse, is now much of it begrudged, although to be sure all these succeed in protecting themselves by a steadily increasing tariff. The same is true of the undertaker. Not nearly as many infants in proportion now die as formerly—indeed there are not, in parts of this country at least, as many proportionately to die—but then the loss is eventually made good to the professional person in question by the greater expense attending the funeral of a proportionately increased number of adults, whose lives through sanitary science have been prolonged to maturity.

Having thus reached the financial point in the question, the manner in which the greatest saving is to be effected, for even the millionaire who scatters his wealth most lavishly is as frequently addicted to the practice of prudent economies, the way becomes easier towards the desired result. It is granted, we will assume, that an inspection of one's premises from time to time is found of pecuniary advantage, upon the ground that such eventually lessens plumbers' bills, druggists' charges, doctors' accounts, and postpones those of the undertaker.

AN EXPERT NECESSARY.

The inspection, to be of value, must be by a disinterested person, an expert. The family physician cannot make it, save in a very general, if not indeed wholly superficial, manner. He has not ordinarily the technical skill, nor can he spare the several hours that are necessary to conduct the examination thoroughly, and to prepare a detailed report. The family plumber should hardly be called upon to pronounce upon his own work, and to entrust the survey to a rival would be unfair to the first, and perhaps be as unlikely to elicit a perfectly unbiassed opinion. What else then remains?

Thanks to modern progress, the clearer definement of social needs and the more perfect subdivision of educated labor, the profession of practical sanitation, of sanitary engineering, has become recognized as a necessity. In its way, and to a certain extent, it is indeed to be classed above our own divine science of healing, though to this it owes its existence. It is admirable to restore the diseased to health, but upon the whole, simpler though it may seem, is it not even a higher function to keep men well? Now for house inspections a skilled expert is plainly preferable, but the services of these gentlemen cost much money—no more to be sure than they are worth, or will eventually be prized at—but at this stage of the world's progress a charge of fifty, or even thirty or twenty-five dollars for investigating a residence, seems to most householders quite a sum for the purpose, and the average man who would spend this amount without another thought upon cigars or similar luxuries, hesitates a long time before giving its worth of additional protection to his wife and children.

PROF. FLEEMING JENKIN'S PLAN.

Under these conditions, "a happy thought" struck the late Prof. Fleeming Jenkin, of the University of Edinburgh. He applied to house inspections, the principle of coöperation or mutual insurance, called the new system "Sanitary Protection," and it was placed at once in successful practice. The Association at Edinburgh was the first to be organized, in 1877. Our own at Newport, R. I., was the second, in 1878. London and other cities followed, and now the principle is in extended application. Much has been written concerning its theory and practice. It is unnecessary for me here, to do more than merely state that a portion of its earlier literature emanated from Newport. As a consistent disciple of the Edinburgh school of thought and of practice, it has been a constant satisfaction to me to watch the development of Jenkin's well concerted system.

ITS FEATURES AND ITS COST AT NEWPORT.

The general principle upon which this system is based is the following: To enable its members to obtain for a comparatively very small sum, an inspection of their houses of the same thorough character, as would otherwise cost several times the amount. At present the annual dues of membership in the Newport Association are $2 per year, which collectively defray the current expenses of printing, postage, etc., no salaries whatever being paid. For a house inspection, which may require the better part of a day, with considerable subsequent clerical labor in preparing the report, $8 is charged, and for water analysis $5; these fees being given, entire, to the inspectors and analyst for their services.

NEWPORT SANITARY CONDITIONS.

The city of Newport in its sanitary relations, is peculiar. The compact part of the town is like that of most old American seaports, which were originally wholly commercial. As sails were replaced by steam, and the carrying business, home and foreign, became centralized in what are now the great foci of trade, both wharf and residential property deteriorated in value in the smaller places, and so far from sufficient annual outlay being made to keep them in their former order, a condition of general neglect has necessarily obtained. The foreign have largely replaced the native born as laborers, and houses that were built for the needs of a single family have now to serve for two or three. Subdivision of use, whether of a dwelling, an out-house or a well, lessens individual responsibility for its care. From times far gone there has been a very general intermarriage between the "old" families within many of these retrograding cities. From Newport besides, till of late years, and indeed the exodus continues, there has been a large emigration of its most energetic young people to places of greater activity, with the threefold effect of progressive loss of public energy, an increased general inertia, and a more marked disposition upon the part of those who have been turning downwards with Fortune's wheel, to become merely glorifiers of the past.

Among the natural effects of this has been the very general retention of the countless old vaults and privies, some of which are in direct connection with wells that are daily employed for household purposes, that still honeycomb the compact portion of these old sea-board towns. In many of them, as here, a free artificial supply of water has been introduced; and in some of them, as here till quite recently, there has been no proper system of sewers to remove the flow, after its pollution.

DANGERS RESULTING.

Again, Newport has become for a portion of the year the centre of American fashion and wealth. Houses of the most expensive character have been built, increasing in number upon a constantly progressing scale. They are furnished with complicated systems of plumbing and drainage. The needs of the place have therefore been twofold. Ancient conditions exist in close proximity to the most modern ones. The dangers of old towns, supersaturated by the retention of centuries of sewage, are supplemented by those arising from the introduction into dwellings upon which architects have lavished all the resources of their art as regards adornment, of every kind of modern so-called sanitary device, good, bad and indifferent, which for economy's sake aside from that of safety, should be as intelligently placed at the outset as possible, and thereafter regularly receive the most intelligent supervision. Many of these establishments are so extensive, and the social demands upon their occupants so great, that all care-taking is entrusted to subordinates, whose only aim again is to play their own petty part in the year's Vanity Fair with the least possible expenditure of trouble. The result has been that more than one Newport palace has proved, wholly unnecessarily, the tomb of its possessor. It would be fortunate for all concerned if such occurrences were of the past alone.

TERMS OF NEWPORT CHARTER.

By the terms of the Charter of the Newport Association, for which the present efficient mayor of the city, Hon. Thomas Coggeshall, was one of the petitioners, it was established for "the purpose of securing the proper sanitary condition of the dwellings of its members, and of any other buildings or premises in said Newport, so as to aid in promoting the sanitary condition of the said city." At that time, January, 1879, there existed no health authorities here save the Board of Aldermen, under whose direction there were a city physician (the present incumbent and the senior of the Newport profession), an inspector of nuisances (who at that time was also the only overseer of the poor), a health officer (in addition, as now, the harbor master, a retired sea captain), and an overseer of small-pox (who was a blacksmith by trade). The Association fully recognized at the beginning the dual character of the responsibilities with which it had been entrusted by the State, to care for the premises of its immediate members, and for their sake as well as for the safety and good name of the whole city, to aid in improving the system that supervised the public health.

CREATION OF NEWPORT BOARD OF HEALTH.

From the beginning, therefore, the Association has persistently labored to obtain a properly organized and sufficiently independent Board of Health, and it has endeavored to do this by repeated memorials to the City Government, by enlisting the interest of the General Assembly, and by producing in many ways a change in public sentiment. In this, at the end of nearly a dozen years of unremitting effort, it may be said to have been in a great measure successful. To have obtained this advance in a city like Newport, with a century of apathy, inertia, and prejudice against all innovations behind it, means a very great deal. The physicians of the place, without exception and year after year, have been in sympathy with the movement, and so have one or two of the clergymen. A general act passed the Rhode Island Assembly empowering Boards of Aldermen to transfer their powers to separate Boards of Health. Though this has not yet been entirely done in Newport, the progress towards its accomplishment is constantly increasing. At first a so called "Advisory Board," of whose members a portion were medical men, was appointed by the Aldermen, but it did not consider it was expected to volunteer suggestions, and its advice was not often asked for or followed. After a year or two, the at present existing improvement was made. A board of five, three of whom are physicians, is annually created for a single year, and annually filled for that time by the Board of Aldermen. It is known as the Newport Board of Health, though often it is still called an advisory board, and probably by many considered as merely such, since the Aldermen occasionally convene "as a Board of Health."

Under such a transient tenure of existence, the Board could hardly at first have been expected to have a very definite policy or to show any remarkable measure of energy. Their suggestions, however, are now received with more and more respect. The appropriations for which they ask are now more generously granted them, and at present there is much more active sympathy between the Board of Health and the Aldermen than ever before. The Board have an executive officer, appointed, upon their nomination, by the Board of Aldermen, and he also acts as their clerk. Neither the inspector of nuisances nor the "health officer" are appointed by them, though they nominate the former, and receive his reports. Both of the present incumbents of these offices are men of experience and well fitted for their duties. The latter has had, perhaps still has, the additional title of "Sentinel," as he is primarily the Harbor-master, and is expected to report the cases of disease upon shipboard that come within his notice. The City Physician happens, fortunately, thought not necessarily, to be a member of the Board.

THE PROGRESS OF THE BOARD.

Frail as is yet the tenure of the Newport Board of Health, it yet deserves credit for what it has already accomplished towards lessening the sanitary dangers and retrieving the repute of the city. Thanks are due to the authorities for having thus far "tried the experiment," as it has been said, of yielding to the advice of those most familiar with such matters, and to the memorials of the heaviest taxpayers, and to what seem the dictates of common sense. The money worth of a bread producer is elsewhere recognized as representing a definite amount in dollars and cents, belonging to the whole community, to preserve which in its effective integrity is, aside from all motives of private selfishness or mere philanthropy and sentiment, a public duty. It has taken Newport a long time to recognize that Death knocks with equal beat upon the gate of the millionaire and the door of the laborer, and that every fatality from zymotic disease, even though from what are called so trivial affections as whooping cough and measles, is so far a disgrace to modern civilization and a robbery of the public treasury. "My father died of typhoid, therefore so should I," would seem to be one of the forms of ancestor worship that still pervades certain of the old New England communities, but the more direct and constant their contact with the outside world, the more completely prejudice yields and the more warmly the at first dreaded, if not derided, innovations of modern science are welcomed. The final abandonment of a polluted site of ice collection, the filtration of the public water supply at its source, the relinquishment of a project for a new cemetery within that area, and the construction of a garbage cremator,[1] all of them since the commencement of the present year, are the direct effects of advice given by the Board of Health, upon public sentiment.

Though the Sanitary Protection Association takes pride in having aided towards the development of a proper Board of Health, it can hardly be satisfied until much that still remains to be done has been accomplished. As at present constituted, there is probably not a single member of the Board whom the Association would desire to have changed, for it combines the decision of maturity with the conservatism of age, and the practical ways of the business man with the scientific training of the physician. As to the extent of the powers of the Board under its present relations there have been differences of opinion, not only on the part of the people but of its own members, and from this it has been blamed for apparent slowness in its work. These questions, however, have of late been clearly decided, and doubts removed, by an exhaustive statement of the law in the case, in its various bearings, enunciated by Judge Darius Baker of this city, at the request of the Newport Business Men's Association. The communication referred to is a brief one, and contains so much that would be of value to other communities, similarly situated, that I present it entire.

JUDGE BAKER'S STATEMENT OF LAW.

"The protection of the public health belongs to what is known as the police power. All property is held subject to this power, which regulates its private use and enjoyment by the owner. If he suffer injury from its exercise, it is either *damnum absque injuriâ*, injury without wrong, or he is compensated for it by sharing in the general benefits which the regulations are intended to secure. This power, which is of wide scope and includes many other things for the preservation of the public health, for convenience of exercise and administration is usually delegated to municipal corporations. For present purposes we shall refer only to that branch of it which pertains to health. This has been expressly conferred upon our city by that portion of the charter which provides that 'the City Council shall have power to make ordinances and regulations for the government of said city relative to the public health.'

"The Public Statutes also provide that 'town councils and boards of aldermen shall be *ex officio* boards of health in their respective towns and may make such rules and regulations, not repugnant to the law, as they shall judge proper for the preservation of the health of the inhabitants thereof, the prevention and abatement of nuisances, the promotion of cleanliness, the removal of the causes and the prevention of the introduction and spread of any contagious or infectious diseases therein,' with authority to affix penalties for the breach of such rules and regulations not exceeding three hundred dollars fine or six months' imprisonment for any one offense, and with the proviso that the City Council may appoint a Board of Health, which shall have all or any part of the powers and duties of the Board of Aldermen as a Board of Health, as the City Council may determine.

"In addition to this, extensive powers as to the abatement or removal of certan nuisances are conferred upon town councils (which may be construed to mean boards of aldermen)—such as slaughter-houses, bone-boiling establishments and fish oil works—as to the regulation or control of the 'construction and location of all places for keeping swine, privy vaults, sinks, sink drains, sink spouts, cesspools, and the outlets thereof;' 'the summary removal of reconstruction of all such as shall be by them deemed prejudicial to the public health, the location of stables and the time or manner of removing filth from them and from the vaults or slaughter-houses'—also as to making suitable regulations and arrangements for the prevention of infectious and contagious diseases, and for the quarantine of vessels and persons on them, and for the burial of the dead. By public law, passed in 1885, a 'town council may order the owner or occupant of any premises' in the town 'to remove at his own expense any nuisance, source of filth, filth or cause of sickness found thereon within twenty-four hours' after notice, under penalty of not exceeding twenty dollars a day for a non-compliance with such order. It may also 'when satisfied upon due examination that any cellar, room, tenement or building in its town occupied as a dwelling place has become, by means of the number of occupants or want of cleanliness or other causes, unfit for occupation as a dwelling place and a cause of nuisance to the occupants or the public,' require the premises in question to be suitably cleansed and, if the order is not complied with, may cause them to be cleansed at the occupants' expense, or may forcibly remove the occupants and close the building against future occupancy.

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[1] The latter, unfortunately, has not proved a complete success.

"The health officer required to be appointed in towns under this act is the agent of the town council for 'making all sanitary inspections,' may 'make complaints for the violation of any law, ordinance, rule or regulation relating to the public health of his town, without giving surety for costs or, in cases of emergency, when the council cannot be conveniently convened, shall have all the authority conferred by this act upon town councils.' The city of Newport is exempted from appointing such health officer; but the power and duties of its Board of Health are commensurate with the powers and duties of the health officer as set forth in the act.

"We have by no means stated all of the powers specifically conferred in relation to the public health and its preservation, but enough has been said to show the scope or extent of the authority delegated to the city in this matter. It is undoubtedly adequate to the exigencies of the case. The next inquiry naturally is as to how far these powers have been exercised by the city. Under them the City Council has from time to time passed various ordinances relating to most, and perhaps all, the subjects above referred to, including quarantine, the burial of the dead, and the regulation of a great many matters properly grouped under the head of nuisances, for example, as to the use of fish manure in this city, the localities of hog pens, the removal of offal, and other filth from private premises, when calculated to injure health, and other kindred matters. It does not seem necessary, as it is not my present purpose, to show how fully these powers have been used as to matters of detail.

"These ordinances were most of them passed years ago, and while, perhaps, they may not be entirely adequate to the requirements of the modern view as to sanitary regulations, yet it is probable that whatever deficiency there may be in them as a system lies largely in the failure to provide the proper means for the efficient enforcement of existing laws and regulations. In the present generally accepted views as to the origin, spread and danger of filth diseases and the means to be employed for their suppression, the old arrangement, under which the inspector of nuisances was the chief and perhaps only executive health officer of the city, is confessedly entirely insufficient. It furnished a way in which a nuisance could be abated, but it is not in harmony with the spirit pervading more recent health legislation, which provides for thorough sanitary supervision and intelligently attempts to prevent as well as to remove the causes of disease.

"The requisites of such sanitary supervision are the gathering of complete health statistics, the right of local inspection, the compelling of a general observance of uniform and wholesome regulations and the power of quarantine and of summarily removing the cause of disease in cases of emergency. I will not attempt to elaborate either of these points. It is difficult to conceive of anyone's objecting to such a system if intelligently and wisely administered. It was a step toward the more efficient administration of health regulations when the City Council passed an ordinance creating a board of health and giving to it practically all of the administrative and executive powers of the board of aldermen as a board of health. The powers of the board under this ordinance are to 'make all proper inquiries into all things in said city which may in any way affect the health;' to 'prepare and compile all such statistics relating to the health of said city as it may deem proper;' to 'see to the enforcement of all laws pertaining to the health of said city as well as the regulations originating with said board and those of the board of aldermen acting as a board of health.' It has an executive officer, and the inspector of nuisances is also subject to its directions. From this it is apparent that the board is clothed with large executive powers, which in emergencies are very reaching, when we take into account the provisions of the act above referred to, passed in 1885.

"I assume that legislative power is not conferred upon the board under the ordinance, notwithstanding the reference to 'the regulation originating with said board,' as that is obviously an allusion to a provision in the ordinance as orginally passed in 1885 (since stricken out), that the board might prepare regulations and submit them to the board of aldermen for their approval.

"Without here discussing the question as to whether events have shown that the power of the board of health might well be enlarged (as to which I simply say that I am inclined to the opinion that for the present the existing division of authority is unobjectionable), I think that it has beeh generally recognized that its existence has demonstrated its usefulness and necessity. And if its efficiency is to be greatly increased, that can be best accomplished by bringing within its control all matters pertaining to the administration of that branch of government relating to the public health.

"The board itself is apparently open to criticism in not using all of its authority in this direction. It is understood that it has no direct knowledge or supervision of the regulations as to the proper disposal and removal of swill and garbage. Yet the complaints in relation thereto are made to the inspector of nuisances, who under the ordinance is expressly made subject to its order. In my judgment what is now most needed is in this same line of improving the administration of the health department, namely, some provision for the better enforcement of some of the existing regulations and ordinances.

"For instance, a regulation requires a house-holder to get permission before connecting a private drain with a public sewer, and also that a trap shall be placed between the sewer connection and the house. These requirements are eminently proper ones. But the permit being obtained, there is no arrangement for public supervision to see that the work is properly done or that the trap is suitably placed. I am informed that there is at the present time in this city a case of diphtheria in a house where drain pipe connects directly with the public sewer without any intervening trap. There should be some regulation requiring public supervision of such an important matter as this.

"I repeat, therefore, that what now appears to be most requisite in this connection is the taking of those steps which tend to the more efficient enforcement of existing laws, ordinances and regulations.

"Although most of our ordinances as to the preservation of health, as has already been indicated, have the sanction of years, it is not improbable that many of them may be susceptible of improvement in some respects. The suggestion of such changes, if they are really needed, would naturally first come from those who are to discuss this question of public health as to its practical aspects. I only call attention to two or three things, which are important to be considered in the making of ordinances and regulations like these which have been referred to. These regulations are all infringements upon the rights of owners to use or enjoy their own property, and in consequence they should be no more burdensome than is necessary. Therefore; when a question arises as to the validity of an ordinance, some of the principal tests are: Is it in conformity with existing laws? Is it impartial, fair and general? Is it oppressive? Is it reasonable? At first thought it might seem that, when the power to make ordinances in relation to a certain subject is conferred by some general law upon different municipalities, they might all exercise it in the same way and to the same extent. But it requires no demonstration to show that the provisions of an ordinance might be reasonable as applied to the city of Providence and quite the reverse in reference to the town of Jamestown.

"An ordinance prohibiting the burial of the dead in the lower part of New York city was held to be reasonable and valid. A similar ordinance, practically prohibitive, in a suburban town, was held to be unreasonable and invalid.

"'The law will not allow the rights of property to be invalid under the guise of police regulation for the preservation of health' when such regulation is not for public good. And the question of reasonableness is determined by the courts, and not by juries."

PAST WORK OF ASSOCIATION.

Leaving this portion of the subject, it may be said that the especial field of the labors of the Newport Sanitary Association has been of late among its own members. This is a sphere for activity that will necessarily always exist, even were there fifty boards of health, with all the powers conferable by common law or statute, behind them. For the first few years its meetings were held monthly, at private houses, when papers were read upon sanitary topics, followed by interesting discussions. These were reported fully in the newspapers, and in this way reached the whole community. Through the Association a considerable sum was raised for a house-to-house inspection of the city, and it was made under the direction of the then existing National Board of Health. A report upon the sanitary condition of Newport was thus secured, which even the most unwilling were compelled to acknowledge as thorough and reliable. The Association has encouraged special researches by its members into questions of moment regarding the health of the city. The ice and water supplies[2] of Newport have been subject to most careful investigation by Profs. Pumpelly, of the U. S. Geological Survey, and Hills, the Association's analyst, and Capt. J. P. Cotton, one of its consulting engineers, with the effect of greatly improving their condition. In similar manner the merits of Newport as a residence for persons of phthisical tendency have been studied in a series of *reports to the Association*[3] by the writer of the present paper, and the facts clearly brought out: 1, that pneumonia and phthisis, originating here, are very rare as compared with the main land; 2, that most of the cases occurring are in unnecessarily damp and clearly circumscribed localities, as houses with wet cellars the number of which is constantly diminishing; and 3, that the moisture of the climate is more than counterbalanced, if not indeed made a favorable feature, by its constant salinity,[4] and the decided equability and comparative mildness of the winter temperature—the conditions being in the main like those of a ship at sea. The Association has taken an active part towards inducing the citizens to adopt the general plan of sewerage and consequent drainage also, which is now in successful operation *through the larger* part of the compact portion of the town. Every year it has conducted for its members many house inspections, and analyses from private as well as the public sources of water supply. For the latter duty it has from the commencement possessed the valuable services of Prof. Wm. B. Hills, of the Chemical Department of Harvard University, while it has had a succession of house inspectors. Its present inspecting engineers are Messrs. Chapman & Farquhar, whose names as experts in connection with Col. Waring, are familiar to all sanitarians. Through the moderation of the Association's charges, possible only through its system of coöperation, the same thorough examination is made for members for a comparative trifle that otherwise would cost several times the amount. One of the two great ends for which it has labored, the establishment of a city board of health, having been attained, it now more closely confines itself to its private work; not hesitating, however, to express itself when it perceives a public need, and it at all times holds itself ready to assist in every way that may be within its power, any desire or project of the Board that may come to its knowledge.

In conclusion, it may be stated that the establishment of a Volunteer Health Organization at Newport of the character indicated has shown an important and possible way, previously untried in this country, in which such an Association can be of aid to official boards of health.

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[2] "The Dangers of Impure Ice." The Sanitarian, May, 1882. "Newport's Water Supply." Ibid., August, 1888.

[3] "Newport, R. I., as a Winter Resort for Consumptives," Ibid, Jan. 11, 18 and 25 and Feb. 5, 1883; "*Concerning Newport, R. I., as a Resort for Consumptives*," Boston Med. and Surg. Jour., March 22 and April 26, 1883; "The Mild Winter Climate of Newport, R. I., as the Effect of the Gulf Stream," *Medical Record*, December 22, 1883.

[4] I am well aware of the discussion concerning the part played by *chloride of sodium* in pulmonary disease. Vide H. B. Baker, "Relations of Certain Meteorological Conditions to Diseases of the Lungs and Air Passages," etc. (*Trans.* Ninth International Medical Congress, Washington, 1887; *Annual* Report Michigan Board of Health, 1888.) The peculiar *exemption* of Ventnor and Newport from these diseases, except *as imported*, is, however, a sufficient commentary. Wholly independent *studies* of this question, as regards Newport, made by *Dr.* F. H. Rankin, Secretary of the Newport Board of Health, and based upon *the more recent* mortuary statistics to the present time, *seem to completely* confirm my previous observations and *conclusions*. *The Sanitarian for May,* 1889, in analyzing the Newport Board of Health's Annual Report for 1888, editorially *states* that the death-rate from *consumption* "is probably the lowest of any equal city population in New England." (Loc. cit., p. 464.)

ORIGINAL DIFFICULTIES OVERCOME.

There were special difficulties in Newport.

1. The non-homogeneity, for evident reasons, of large portions of its population.
2. The traditional, if not hereditary, apathy of the permanent residents regarding public questions of the kind, partly the effect of circumstances already stated, and perhaps also in part the result of the local, non-stimulating, climate.
3. The commensurate lack of interest by the summer people in anything not of a purely social character.
4. The very prevalent fear upon the part of each, lest sanitary agitation might injure the reputation of the place as a resort both for pleasure and for health.

These obstacles are now surmounted. The summer people recognize that pleasures may be purchased at risk to life, unless they give reasonable attention to their surroundings. The winter people have come to see that no matter what the natural advantages of the place, they must provide the same safeguards to the taxpayers that are given by communities elsewhere. The last year's list of members of the Association comprises no less than fifty-two, among them many of the most intelligent, most influential and most wealthy of the residents of Newport.

In the present brief sketch of the success of an isolated experiment in public as well as private sanitation, I have purposely refrained from alluding to the admirable work that has been done elsewhere by volunteer sanitary organizations in aid of official boards of health during special emergencies, at New Orleans, Jacksonville, etc., for each deserves its own historian.

REPORT OF PARENT ASSOCIATION AT EDINBURGH.

It will be of interest, however, if I give a brief sketch of what is being done by the parent body of all the so-called Sanitary Protection Associations, that of Edinburgh, the report of which for the past year has reached me while preparing the present paper.

The President of the Edinburgh Association is Prof. Sir Douglas Maclagan, Kt., M.D., assisted by two Vice-Presidents, a Council of fifteen gentlemen, and a Secretary, who is also Treasurer. There are a Resident Engineer and three assistants. There were *no less than* 104 public buildings (schools, club-houses, banks, hotels, and hospitals) inspected during 1888, besides many private residences. Since the foundation of the Association, 536 gentlemen's country houses have been examined. The number of guinea subscribers the past year was 529. The balance in bank at the commencement of 1888 was £557 13s. 9d. The income from all sources was £2,253 0s. 7d., making a total credit or "charge" account of £2,810 14s. 4d. The total expense or "discharge" account for the year was £2,033 17s 1d., leaving a balance of £776 17s. 3d. in the treasury at the opening of 1889. An Association whose assets thus reach from $12,000 to $15,000 yearly is clearly capable of accomplishing much good. The results show that the Edinburgh Association is fully competent for its mission. At its recent annual meeting, Sir Wm. Muir stated that "no institution in Edinburgh was of more value to society than the Sanitary Association."

Besides the Edinburgh Association, similar organizations now exist at Glasgow and Dundee, Scotland; London, Bedford, Bradford, Brighton, Cheltenham, Newcastle-on-Tyne, Wolverhampton, Liverpool, Cambridge, Cardiff and Bath, England; Dublin, Ireland; and Montreal, Canada.

ON THE EVIL OF OPIUM EATING.

Read in the Section of Medical Jurisprudence, at the Fortieth Annual Meeting of the American Medical Association, June, 1889.

BY W. S. WATSON, M.D.,

OF MATTEAWAN, N. Y.

The practice of opium eating in some of its forms is pervading this country to an alarming extent. The preponderance of evidence is positive that this evil is rapidly on the increase. We gather from the Bureau of Statistics that we imported 145,985 lbs. in 1867; in 1869, 157,000 lbs.; in 1880, 533,451 lbs.

This amount has steadily increased each year, and to this should be added the product of this country—opium being cultivated in several of the Southern States, the statistics of which we are unable to obtain. It is estimated, however, that it amounts to several thousand lbs. It is fair to presume that not 25 per cent. is used for legitimate purposes; the remainder goes to the opium eaters. It is impossible for any one unaccustomed to the power of this poisonous drug to imagine the suffering that may be superinduced by its use, and it is scarcely possible to know the injury it is producing upon the people at large. The effect is telling upon the present generation, and it will have its influence upon generations to come. Is it not time that an heroic and united effort should be made to suppress this mighty evil? Is it not the duty of every minister of the Gospel to warn his congregation against this evil by calling their attention to the utter impossibility of quitting the habit when once formed? We feel that such is the province of the ministers, and not only should the attention of the laity be called to the danger of forming such an appetite, but also to the hundreds of quack cures, designed for those who are already addicted to the use of opium, morphia, or chloral, all of which—or nearly all—are worthless, and gotten up purposely to extort money from the poor slaves of this dreadful habit. It is necessary to mention only a few of this class of quack cures: that of the "Scotch Oats Essence" and some twenty others extensively advertised, claiming to contain no opium in any form, while analyses show that each one is composed of that identical article in some form or other, showing conclusively the treachery of such unprincipled charlatans.

In 1886, the Massachusetts State Board of Health had a complete analysis made of the following opium "cures," some twenty in number, by Dr. Davenport, of 161 Tremont St., Boston, State Analyst and medical sanitary chemist. Dr. Davenport is prominent in his profession, being a member of the American Chemical Society, also those of London, Paris and Berlin: H. Z. Baker, Toledo, O.; J. R. A. Dunn, Elizabeth, N. J.; J. C. Beck, Cincinnati, O.; Theo. Vedings (double chloride of gold cure); Chas. C. Beers, New York City; Geo. A. Bradford, Columbus, Ga.; J. C. Hoffmann, Jefferson, Wis.; P. B. Bowler, Logansport, Ind.; H. H. Kane, New York City; J. S. Carleton, Chicago, Ill.; L. E. Keeley, Dwight, Ill.; S. B. Collins, Laporte, Ind.; F. E. Marsh, Quincy, Ill.; Berrien Springs Dispensary, Berrien Springs, Mich.; J. A. Drollinger, Laporte, Ind.; L. Meeker, Chicago, Ill.; William P. Phelon, Chicago, Ill.; W. B. Squire, Worthington, Ind.; J. L. Stevens, Lebanon, O.; B. M. Woolly, Atlanta, Ga.

Dr. Davenport writes me on the 2d of June that he has also examined "Keeley's double chloride of gold cure" and found it to contain neither morphine nor any gold, and that Dr. Buckland's "Scotch oats essence" contained a large amount of morphine, and Harriet Hubbard Ayer's "vita nuova" a large amount of cocaine alkaloid.

The opium habit is one quite easily formed, the primary effect being rather pleasing than otherwise, acting as a stimulant which invigorates and quickens the senses, animates the spirits, gives energy to the intellect which is followed by calmness and placidity of mind. The individual is, in a manner, insensible of painful impressions, more or less disposed to forget care and anxiety; his feelings are indefinable, he is filled with pleasing fancies, conscious of no other feeling than quiet and vague enjoyment, until finally lost in sleep.

This pleasant effect lasts from three to eight hours, and is followed by nausea, relaxation, headache, and more or less nervous depression. As a person becomes accustomed to the use of opium this pleasant delirium is scarcely felt—with those accustomed to its use in large quantities it is not experienced. Instead of such effect, it has become a builder of business feeling, enabling the *habitué*, or consumer, to engage in his daily business pursuits with renewed energy for the time being. The opium eater's mind seems clear, his thoughts are well directed, his general appearance is above suspicion. In fact, but few of those addicted to the use of the drug for years are suspicioned even by their most intimate friends.

The habit of eating opium, as it is termed, is a vice that all strive to conceal. To have it whispered that he or she is an opium eater gives to many the impression that the individual is living in another world, a world of wonderful dreams and strange experiences.

We have known of instances where the wife has clandestinely made use of opium or morphine for years without the husband's suspecting her. Often have we been urged by the wife to help her out of her dreadful habit without her husband's knowing anything of her condition, giving as her plea that her husband would surely cast her off forever, were he made aware of the facts. We can call to mind an instance, that of the wife of a prominent physician who had been using opium some years before her husband discovered the cause for her otherwise unaccountable symptoms and actions. We think it is high time that a warning word be sent out against this meanest of self-indulgences, nor should the poor sufferers be left to their direful fate or to the tender mercies of the charlatan. The votaries of King Alcohol have received attention from humanitarians, statesmen, physicians and clergymen generally, but the blinded slave to opium is left to go his way almost unnoticed, certainly unaided.

We have stated that one of the primary effects of opium is that of a stimulant, and we will add that it is this pleasant stimulating effect that induces the repetition of the dose. Such a state of stimulation and exaltation can only last a short time, unless more fuel be added. The secondary effect must follow the taking of such a dose of poison into the system, and when it comes, all the suffering to which flesh is heir seems to be concentrated in the victim of this pernicious habit.

The saddest of all is, that he can get no relief unaided, except by repetition of the dose. Sadder still, the dose each time must be larger to satisfy. It is said that no one but the habitual opium eater is able to give the faintest idea of the torture he feels when trying to abstain from the dose. He is driven to madness which causes him, against his better judgment, to seek relief by returning to his habit. It matters not who he may be, whether from the high or the low, of whatever caste, he finds he is, indeed, a slave to a habit over which he has no control—with himself control is a lost quantity. All opium eaters have but one story to tell us, that is that they are no longer free; they are slaves to an appetite which they cannot control. It is admitted that opium-eating—no matter how it is used, whether taken through the mouth, or morphia inserted hypodermically—produces a neurosis which amounts to a necessity for the continued use of the drug until a powerful sedative effect is produced by the use of such drugs as will subdue the reflex sensibilities attendant upon abrupt withdrawal of opium. The demand for the drug is so imperative as to place the consumer wholly beyond the powers of resistance unaided. The experience of hundreds testifies that the use of opium cannot be suddenly abandoned without serious results. The principal difficulty we encounter in treating those addicted to the use of opium, is that they have lost about all their will power, or self-control—in fact, confidence in themselves. Their disease seems to impel them to increase the dose rather than diminish it, and their repeated attempts at abandonment have proved their utter inability to diminish the dose, even gradually.

The process of gradually diminishing the dose requires the presence and skill of a physician. The opium eater needs sympathy, encouragement, moral influence, and such help as can be given him only by one familiar with and devoted to this work. The only remedy or reasonable chance, or plan that offers any positive assurance of cure to the opium user, is to place himself under the care of a specialist, one who is conscientious and who understands from contact, study, and attention his patient's peculiar needs. Factors which stand in genetic relation to opium addiction are necessity and desire.

We have given this subject our personal attention, and we have made extensive inquiry as to the cause, from those using opium and from medical men engaged in the treatment of this neurosis, or habit, and we find a large majority have acquired the habit while suffering from some painful disorder demanding the use of opium for the alleviation of pain. Pain, in most instances, was the supposed physical necessity and the source of their addiction.

Opium in some of its forms is often innocently and thoughtlessly suggested by a friend for the relief of insomnia or some slight pain, as toothache, earache, etc. Frequently the habit is thus thoughtlessly acquired. Oftentimes the blame should rest upon the attending physician who may have recognized a necessity for an anodyne for immediate relief, but failed to warn his patient against repetition or continuance of the drug. Let the first cause be what it may, when the habit is once formed it is one which is not easily thrown off—in fact, unaided, it is practically impossible. The general public have no adequate conception of the strength of the opium habit. It is not with the opium eater as it is with those addicted to the use of alcoholics or tobacco, which may be thrown off by a strong effort of the will, while the opium eater's will power is weak.

Nevertheless opium eating is a vincible disease, and every case is curable, the patient being otherwise constitutionally strong, free from organic disease, and possessing an earnest desire to be cured. As to the extent or duration of the habit, it matters not, nor need there be any dread of the often heard of ordeal that must be passed through, that has been pictured as a hundred times worse than death itself. The days of such inhuman methods are no more. More humane, rational and scientific methods are now offered these unfortunate sufferers. We use the word sufferers, for those who are addicted to the use of opium in any form are persistent sufferers from various nervous symptoms. The ravages of opium addiction are on the nervous system, bringing about various reflex disturbances.

We regret that there is such a lack of knowledge on the part of the laity, they not having been warned of its insidious effects, and we cannot too strongly urge the necessity of a warning word from those to whom the people look for guidance. The medical profession and the clergy have a duty to perform, as also has the religious press, in this direction. The laity also should be warned against quackery and charlatanism of the so-called "cures" for opium addiction. The newspapers and periodicals have many such advertisements, designed by the unscrupulous to catch the victims of this habit; yea, there are hordes of such fiends in human shape who are ready, at every turn, to make capital out of your misfortunes. Quacks and charlatans have a rich harvest from this source. These heartless villains often advertise under the pseudonyms of "clergymen," charitable institutions, etc., usually offering for sale some mixture that is a sure cure, in proof of which they not infrequently cite testimonials of numerous individuals who have been cured, though they never really lived. Another plan is a reverend gentleman, a late missionary from South America or elsewhere, who is intent on doing good, who has found out or discovered, by some strange circumstances, a positive cure for opium addiction in all its varied forms. He asks nothing for his great discovery, and is so determined on doing good that he will send to any poor sufferer the requisite medicine to effect a perfect cure for the actual cost of the drugs. Look out for this fellow, keep your money, do not be duped. This is but one of the many ways these human sharks pursue their prey. Do not waste money and time in consulting or corresponding with such unprincipled charlatans who make such glowing pretensions. Nor is it safe to consult the traveling "doctor."

Physicians of real merit have plenty of work at home, and are not obliged to go abroad in quest of patients. Consult only some well known, reliable physician in whom you have confidence, and whom you have every reason to believe understands his professional duties. Should your family physician treat the case lightly, you will not judge him harshly though you decide that he may be thoroughly competent to treat diseases generally, yet he may be ignorant of the nature and proper modes of treating opium addiction.

It is an unfortunate fact that comparatively few physicians to-day are acquainted with the modern methods of cure, while very few seem to feel any real interest in the matter. There can be no stereotyped cure for the opium habit. The plans have to be varied to suit special symptoms and peculiar constitutional idiosyncrasies. Some individuals show a much greater degree of reflex irritation than others. On attempting to withdraw the use of opium, with some it is best to rapidly withdraw to avoid impatience, while others do better under a gradual withdrawal. Females generally do best on the slow method, sometimes requiring two or three months for a radical cure. It is always proper to get the patient thoroughly under the influence of nerve sedatives to diminish the reflex disturbances attendant upon the withdrawal of opium. When under the influence of proper sedatives the opium may safely be diminished with but little discomfort to the patient. Uncomplicated cases can safely be promised recovery without the loss of an entire night's sleep. All cases demand more or less tonics and stimulants, judiciously administered, to bridge them over.

Let the cause be what it may that induces the habit, we cannot afford to ignore the fact of the existence of such a habit. It thrusts itself upon us and demands our earnest attention and candid consideration. The evil is widespread; its victims are legion. There is not a village or hamlet in the land that has not its opium eaters, nor is there a drug-store which does not have its patrons for this drug.

CHYLOUS CYSTS OF THE MESENTERY, WITH A REPORT OF A CASE.

Read in the Section of Surgery and Anatomy at the Fortieth Annual Meeting of the American Medical Association, June, 1889.

BY N. B. CARSON, M.D.,

OF ST. LOUIS, MO.

In presenting the following rare and interesting case, I had hoped, when the operation was first determined upon, to be able to add something to the limited knowledge as to the origin, etc., of these cases, but am sorry to admit that no additional light was obtained. The literature of the subject is very meagre, as Werth says, of little value.

In manuals of pathological anatomy, cystic tumors are simply referred to, and in most of them, chylous cysts are mentioned only in connection with dilatations of the thoracic duct. The following case, as far as I have been able to discover, is the only one found in American literature, and the cyst the largest one reported up to the present time. I first saw this patient three years ago, and at that time I had him under observation for three months when I lost sight of him and did not hear of him again until February of the present year. When first seen the following history was obtained: M. J., age 39, Norwegian, blonde, married, manufacturer, resident of St. Louis fifteen years, of phlegmatic temperament, medium height, slight build, well nourished, weight about 150 pounds, family history good, father and mother living to advanced age. The patient had always enjoyed good health, with the exception of an attack of chills, when 24 years of age, and typhoid fever about five years ago, from both of which attacks he recovered rapidly. The malarial attack reduced his weight from 165 to 150 pounds, at which it remained.

Upon examination a tumor the size of a fœtal head, globular in shape, was found midway between the umbilicus and pubis, a little to the right of the median line, freely movable upon its point of attachment which could be readily made out to be the first and second lumbar vertebræ. The diagnosis was mesenteric cyst, and to discover its true character I aspirated and drew off several ounces of a whitish, milk-like fluid, which I immediately recognized as chyle.

After seeing its contents, from its situation and apparent short pedicle, I changed my diagnosis to cyst of the receptaculum chyli, a condition more frequent, according to the literature then at my disposal, than chylous cyst of the mesentery. During the three months that the patient was under observation there was no apparent filling up of the sac. I then lost sight of him, as already stated, until February of this year, when he sent for me and I found him with a localized inflammation around the tumor which had increased to the size of a large adult head. The tumor, he said, had changed very little from the time it was tapped until recently, since when it had been steadily and rapidly increasing, and of late had given him much trouble and annoyance. His general health up to the time of the acute attack had been good, his weight remaining about the same—150 pounds. The situation of the tumor was unchanged and the only alteration which had taken place was in its size; I advised its removal as soon as his condition would allow. To this he readily consented, and on March 3 I did laparotomy, and after emptying the sac of five pints of the fluid resembling in all respects that removed at the tapping above referred to, I stitched first the peritoneal surfaces together, then the walls of the cyst to the skin, filling the cavity with iodoform gauze. The patient readily recovered and at the present time is attending to his business.

I am indebted to Dr. Bremer for the following analysis of the fluid. Dr. Bremer says: "The fluid handed me for examination is of a cream white color, its specific gravity is 2014, its reaction alkaline; it contains albumen but no fibrine: microscopically large granular cells are found in abundance, in some of which protoplasm has undergone fatty degeneration of all degrees of intensity. Their chief anatomical elements, however, consist in minute fat globules, resembling in size those of milk. Crystals of the sodium chlorides are also found in great numbers; chemically it contains on superficial analysis, the chlorides, carbonates and sulphates. The fact that cells containing fresh and intact protoplasm are found, would go to prove that the cyst from which the fluid was taken was somehow connected with a canal carrying fresh cells, probably with the lacteals, or the cysterna mesenterica. The fluid two months after the operation did not show any signs of putrefaction." The walls of the cyst were thick, hard and externally, in places, rough and irregular, due no doubt to the recent inflammation. The right wall was thicker than the left and the lining was smooth and for the most part covered with yellow lamellæ, seemingly fibrous in character. Numerous blood-vessels, some of them of large size, were seen in the walls of the sac, although little blood escaped from the incision.

The following tables include 11 cases, all that I have been able to find in the literature up to the present date.

No. and Operator.	Where Reported.	Sex.	Age.	Origin.	Operation.	Recov.	Died.	Remarks.
1.—Bramann . . .	Langenbeck, Archiv, Vol. xxxv.	M.	63	Cysterna chyli	Incis'n and stitching walls of cyst to abdom. wall.	1	.	Tumor was size of child's head.
2.—Kilian.	Berlin Klin. Wochenschrift, Nov. 25, 1888.	F.	61	Distended ductus thoracicus.	Incision and drainage . .	1	.	Tapped twice and 4700 cub-cm. of chyle withdrawn.
3.—Kuester. . . .	Ein Chirurg. Erkentniss, Berlin, 1882.	F.	21	Between mesentery folds.	Extirpation.	.	1	Cause of death septic peritonitis due to wounding of bowel. Tumor size of adult's head.
4.—W	Milliard and Tilleaut, in Han's paper in Berlin. Klin. Woch., 1887, No. 23.	M.	31	Supposed to have been from a degen. mesenteric gland.	Extirpation.	1	.	About the size of adult's kidney.
5.—Werth.	Archiv. für Gynecol., 1882, Vol. xix.	F.	. .	Mesenteric gland.	Extirpation.	1	.	Size of child's head.
6.—Fenominoff. .	Unjenim and Petroff Dhevnik Kazans Kaho Obschlchistra Vratchis, Nos. 7 and 8, 1888, p. 72; also in London Med. Rec., Aug. 20, 1888.	F.	26	Mesenteric glands	Extirpation.	1	.	. . . .
7.—Carson.	Amer. Med. Association, June 27, 1889.	M.	42	Not known.	Incision and drainage . .	1	.	Large as adult head; wall very thick and hard.

POST-MORTEMS.

By whom Reported.	When Reported.	Sex.	Age.	Origin.	Remarks.
1.—Enzmann . . .	Basle Inaug. Dis. . .	F.	77	Thoracic duct. . .	Patient died of endocarditis. Walls of cyst thick and flabby. Contents inspissated chyli of a cinnamon-brown color.
2.—Rokitansky. . .	Lehrbuch der Pathol. Anat., 3d edition.	M.	53	Mesenteric gland.	. . . .
3.—Rokitansky. . .	Lehrbuch der Pathol. Anat., 3d edition.	M.	36	Mesenteric gland.	There were found several small sized cysts with thick walls and yellowish-white contents. Lobulated sac size of child's head with a milky, slightly rosy fluid, mixed with glutinous red and black lumps.
4.—Virchow.	Berlin Klin. Wochen., 1887, Nov. 14.	. .	. .	. . . .	Multilocular.

Of these eleven cases, seven were discovered during life and operated upon; four were found in the post-mortem room. Of this number eight had their origin in the cysterna mesenterica and degenerated mesenteric glands, and three in the receptaculum chyli and thoracic duct. Five were males and five females, and in one the sex was not given. It will be seen from this that sex had no influence in the formation of these cysts. The youngest case reported was 21 years of age, and the oldest 77. Of this number four were under 40 and six between 40 and 80. In one case the age was not mentioned.

As stated above, this includes all cases so far reported, unless we can include a case by Eppinger (*Prager Vierteljahrschrift*, 1873) found in an autopsy, which Werth considers, from the description of the cyst and its contents, to have been a chylous cyst of the mesentery, instead of a dermoid cyst as reported.

The contents of these cysts vary in color and consistency, in the majority being a cream-like fluid, and of about the same thickness, while in others it is thick and putty-like. It may be found in all degrees of consistency between these two extremes. In some the color is yellowish white, in others a cinnamon brown, while in one case it was of a rosy hue, mixed with gelatinous red and black lumps. This difference in color is due, no doubt, to red blood corpuscles derived from the walls of the sac.

The description of the cyst contents, as given by Dr. Bremer, applies to all cases, with the exception that in some, epithelial cells and crystals of cholestrine have been found, which are not present in his analysis. In those cases where the anatomical character of the cyst wall was noted, it was seen to be thick, hard, sometimes almost bony hard, rough externally, irregular in thickness, and to consist of three layers; the inner layer was made up of endothelium abounding in connective tissue cells, and dilated blood-vessels with recent extravasations of yellow granular matter; the middle layer was formed of fibrous tissue, some cells and vessels, and was traversed by numberless islets of lymphoid tissue and typical lymphoid follicles; the outer layer contained for the most part only fibroid tissue.

These cysts may originate from five different sources; first, from the thoracic duct, second, from the receptaculum chyli, third from the lacunæ mesenterica, fourth, from the mesenteric glands, fifth, from a rupture of the chyle duct, within the mesenteric folds. Küster (in *Chirurg. Triennium*, 1876–78) thinks that there is no doubt whatever that we have to consider these cysts as congenital, and that they are caused by fœtal enclosure of parts of external blastoderm. He comes to this conclusion on account of the medium position of these tumors.

Werth (*Archiv. für Gynecol.*, 1882, Vol. xlx) says in those cases where no epithelial cells are to be found, either in the walls of the sac or in its contents, we can conclude the tumor to have had its origin in no vessel into whose composition epithelial takes part.

Such tumors, I can readily imagine, may follow the rupture of one or more of the chyle ducts, due to infarction. Here the irritation set up by the extravasated fluid would cause a blending of the tissues around and an infiltration of fibrine, and as a result, we would have a thick-walled cyst, which would gradually increase in size, as long as the fluid was emptied into it. In those cases having their origin in the mesenteric glands, a gradual distension takes place, followed by a degeneration of the gland tissue and a consequent thickening of the cyst walls due here also to the pressure of the accumulating fluids.

The operation for the relief of these cases consists in laparotomy, with extirpation of the cyst, or in laparotomy with incision of the cyst and drainage. Of the seven cases operated upon in only one death resulted, and that was due to a wounding of the bowel, during an attempted extirpation. Bramann (*Berlin Klin Wochenschrift*, 1887, xxlv, p. 409) favors an operation by incision and drainage and opposes extirpation on account of the danger of gangrene of the intestine. Küster (in *Chirurg. Triennium*, 1876–78), whose case resulted fatally, regrets having wounded the bowel during the operation, and favors incision instead of extirpation. In conclusion, I would advise the removal of the cyst, as soon as it begins to inconvenience the patient or interfere with his nutrition or health, by incision and drainage, instead of extirpation, as I believe the latter operation to be not only difficult, but to endanger unnecessarily the life of the individual.

In most cases a rapid, safe and complete cure can be accomplised by drainage and incision.

A TYPICAL CASE OF OCULAR IRRITATION, CAUSED BY CHRONIC RHINITIS, RELIEVED BY TREATMENT OF THE NASAL TROUBLE.

Read in the Section of Ophthalmology at the Fortieth Annual Meeting of the American Medical Association, June, 1889.

BY ADOLPH BLITZ, M.D.,
OF INDIANAPOLIS, IND.

Within the last four or five years neurologists have given the study of nerve reflexes more extensive consideration, and justly so, since we have learned that nerve irritation in one part of the body will produce a train of symptoms in either a contiguous or even remote part, readily traceable to the nerve reflex as the exciting cause, and all treatment directed to other than the seat of the nerve irritation has proved a failure.

Hack first called attention to certain abnormal conditions of the Schneiderian mucous membrane as aggravating causes of affections, the symptoms of which apparently located the trouble in neighboring parts. It was therefore only natural that, on account of the close anatomical relation of the two organs, the eye and the nose, ophthalmologists examined the latter for abnormal conditions which could locate there the probable cause of some, at least, of those affections of the former which, from their persistency and stubborn resistance to apparently proper medication, pointed clearly to nerve reflex as the exciting cause.

Many observations have demonstrated that these reflexes were produced by pressure of the sensitive erectile tissues of the turbinated bodies against the nasal septum. The results showed that where formerly we had many failures to report from the treatment of the eye troubles alone, cures are now possible from thorough application of the proper remedies to those and other abnormalities within the nasal cavity, without applying any local treatment to the affected eyes, thus showing conclusively the reflex origin of the eye trouble, and the nasal cavity as the real seat of the disease.

These nerve reflexes, especially as existing in their relation between the nasal cavity and its ocular neighbors, necessitate the thorough examination of the nasal cavity in all cases of eye troubles presented to the ophthalmic surgeon for treatment; and especially in cases where the causes are at all obscure we may suspect, and, I have no doubt, will often find, a reflex origin.

Since I have become acquainted with the conditions above described I have made it a rule to examine the nasal cavity in almost every case of eye disease presented to me for treatment; and, strange as it may seem, in all the nasal organs I have examined I have so far failed to find one with either a perfectly healthy mucous membrane or free from other abnormal conditions; whether this is because of the climatic changes in our western country, or otherwise, I am unable to state.

I will here relate the following case, which proved very interesting to me:

Mrs. P. was sent to me by her family physician on October 15, 1888. The patient is about 50 years of age, of slight build, medium height, dark complexion, very nervous, quick of action, and badly nourished. She had been sick with typhoid fever some time before, which left her weak, debilitated and with considerable stomach trouble, which caused loss of appetite, and which partly accounts for her badly nourished appearance, although her husband stated that she never at any time was a good eater, her principal diet consisting mainly of tea, toast and other light foods, seldom eating meat and disliking the taste of milk. She is an untiring worker, always ambitious and self-reliant; she would only desist and remain quiet when compelled to do so by intense pain or other causes which were rather stronger than her will-power. When in any way even partially able to be about, nothing would keep her from work or attending to some outside duties, whether the weather was clear or rainy. She complained of a terribly painful itching in and about the eyes, which had greatly annoyed her since July, with variable intensity.

Examination showed both upper and lower eyelids slightly œdematous; the lower lids especially sagged down and looked baggy, discolored, of a dark purplish hue; here and there a little vesicle appeared, containing a little serum. These vesicles, which were but few in number, made their appearance occasionally, and only when the itching was most severe, and then would disappear; nor were they a constant symptom. The ocular and palpebral conjunctivæ were congested. This congestion at times was very pronounced, and the eyes felt as if they were full of sand. There was considerable photophobia and lachrymation, especially so when exposed to bright light. The ophthalmoscope showed no lesion in either eye, but the glare of the light increased the irritation, produced a fit of sneezing and a copious discharge of tears. It was impossible to test vision on account of the extreme sensitiveness.

Examination of the nasal cavity revealed the entire Schneiderian membrane in a state of intense congestion, the inferior and middle turbinated bodies on both sides being very much swollen and pressing closely against the septum. The nasal cavity was almost entirely impervious, breathing being carried on through the mouth. The parts were very sensitive; touching them at any point with a probe produced great pain, lachrymation and a fit of sneezing. The most annoying symptoms were the intense pain and the intolerable itching in and around the eyes and eyelids, which would come on spasmodically, remain a few minutes, disappear and then return, the intermission varying from a minute to half an hour. Any bright light would intensify these symptoms. The sufferings of the lady were very intense. During a paroxysm she would rub her eyes, then cover them with her hands, while all the time moaning and fretting, and often she would say she felt like tearing her eyes out.

The first part of my treatment of the case proved a failure, although I recognized at once the reflex origin of the trouble and rightly directed the treatment to the nasal cavity; but my mistake consisted in assuming that because of the extreme sensitiveness of the parts and the nervous excitement of the patient, it would be best to commence with a conservative treatment until I succeeded in partially allaying the severer symptoms. I therefore applied a warm vaseline spray to the nasal cavity, with applications of a solution of cocaine, using the latter also to the eyes and eyelids. The patient was also directed to apply a 4 per cent. solution of cocaine externally to the eyelids and surrounding parts, as far as the itching extended. Internally I prescribed a tonic and ordered a generous and nourishing diet. The patient was told to report the following day; but, as she did not come, I thought she probably was so much better that she did not think it necessary to report. Such, however, did not prove to be the case; for, on October 20 she returned, suffering as much as ever. I thought that the failure to get relief was probably due to her neglect in attending to the case, so I requested her to report for treatment every pleasant day; which she did, but in spite of all the soothing applications I could think of, the case made no progress; for while the soothing applications to the nose, eyes and eyelids allayed the pain and itching for a short time; these disagreeable symptoms would soon return, and with renewed vigor.

I then saw my mistake in using only soothing applications, and determined to immediately institute a prompt and vigorous treatment. I made a galvano-cautery application to the swollen turbinated bodies in as thorough a manner as I thought the patient could bear, using a large flat burner for the purpose. The result was magical, for, although the application was quite painful, in spite of the liberal cocaine application of an 8 per cent. solution to the Schneiderian membrane before the burning—the pain and itching of the eyes and eyelids ceased at once; and although the itching and pain returned the next day, they never afterwards were so intense.

I ordered all medication of the eyes and eyelids discontinued, only allowing her to apply the 4 per cent. solution of cocaine in case the pain and itching should return in a more troublesome manner. The cautery applications were made as often as her physical condition and the local disturbances after each burning would allow, which was about every five or six days; the annoying eye symptoms gradually disappearing as the treatment of the nasal affection progressed, although the cocaine applications to the eyes and lids had been discontinued. The only trouble the patient experienced was when, on account of her entire disregard of the weather, the exposure to dampness or even a hard rain would produce a slight return of the itching. I treated the case until January following, when the patient went to Florida, to remain during the rest of the winter. I met the husband about a month ago, and he stated that Mrs. P. got along very well, had no itching of the eyes, except twice, for a short time, the result of cold, but was now in good condition and able to do her work.

The above is one of the many cases I could cite, but as it is so strongly marked in its reflex phenomena, it will be sufficient to fully illustrate the relations existing between ocular and nasal affections, and the necessity of a thorough inspection, and often a proper and vigorous treatment, of the latter, if we expect to benefit the former.

CLINICAL STATISTICS.—A WORD IN FAVOR OF FREE DISPENSARY AND HOSPITAL WORK.

Read in the Section of Obstetrics and the Diseases of Women at the Fortieth Annual Meeting of the American Medical Association, June, 1889.

BY ELIZA J. C. MINARD, M.D.,
OF BROOKLYN, N. Y.

In presenting these statistics I am confined to the diseases of women, though the plea includes all other departments of the practice of medicine.

The injustice done to young practitioners and druggists through the loose way of dispensing medical advice and medicines, has been ably discussed of late, and the feeling is growing fast in favor of the belief that all dispensaries and hospitals which receive State aid, should be conducted for the benefit of the patient, the improvement of the post-graduate physician, and the advancement of medical science.

In the treatment of a class, who, by force of circumstances and misfortune are compelled to seek aid from these charities, no branch of the profession calls for more sympathy than that of the diseases of women. In every misfortune of life the burdens rest heavily upon woman. Selfishness and injustice; ruin and hunger; dirt and contagion; sickness and suffering; crime and agony; hopelessness and suicide, follow closely upon poverty and adversity. The working-man has a heavy tax laid upon him when the wife and mother sickens. Any help extended to him is a benevolence untold and an aid to the State by preventing pauperism and crime.

I have collected the result of three years' earnest, painstaking study; endeavoring always to keep in view in my investigations and treatment, the idea of mitigating human suffering. From 2,700 women treated in the department for diseases of women in the Brooklyn Eastern District Dispensary and Hospital, of which I have the honor of being the physician, I have selected 1,000, mostly of American birth, because of the reasonably satisfactory history to be obtained.

From these I present in a tabulated form statistics on menstruation:

1. Number of patients.
2. Age of patient, and
3. Pain at beginning of monthly period till marriage or childbirth.

Age of Patients,	No. of Patients.	No. Having Pain.
9 years	2	2
10 "	12	11
11 "	28	8
12 "	95	40
13 "	193	104
14 "	191	111
15 "	140	83
16. "	161	80
17 "	52	29
18 "	45	30
19 "	18	9
20 "	7	3
21 "	3	0
22 "	1	0
	938	510
Uncertain	62	
	1,000	

In looking at the sum total of this table one finds that nearly one-half of our girls enter womanhood in a crippled condition—so to speak,—which renders marriage in its highest sense a problem of the gravest possibilities. Again, it shows that at the age of 13, 14, 15 and 16 years the majority of girls menstruate, at the time when school-life demands the closest mental labor, or they begin to labor for their own support and that of others, or, worse, are put into the hands of dress-makers and are corsetted to form a figure for a future social positions. They are never to frolic or use the hands or feet in any employment which may cause them to grow u-n shapely.

Cases of dysmenorrhœa are seldom systematically treated in young girls. They are taught to bear the pain, sometimes as agonizing as childbirth as their mothers have done before them, trusting, *sub rosa*, to marriage for relief, when matrimony should by the last act thought of till a cure has been performed through the best of medical advice. But the family is formed in the face of these grave possibilities. The foundation of domestic life with all the happiness due such a state, is laid with high hopes on a frail basis of ill health. The first birth may relieve the dysmenorrhœa, but in many cases the wife becomes an invalid, unable to cope with the duties of marriage, a trial to her husband and no comfort to herself,—after recriminations and protestations she seeks medical aid. The family physician is not a specialist and she is treated on general principles, and if she has no means she seeks the free dispensary clinic. Her marital misery calls out the deepest sympathy of her medical adviser. . Willing to assume two-thirds of the ills of marriage she here takes all the blame, never harboring a thought that the fault may not be hers. Gynecologists know only too well with what persistence she will follow out treatment and submit to operations to be relieved of her disability.

Of 161 cases of sterility, non-development and displacement have been the most frequent causes. Stenosis, endometris, pelvic inflammation, tubal and ovarian diseases and the complications of tumors make up the list. One finds here ample field for testing the teachings of the schools. Rapid dilatation and the curette judiciously used are indispensable in the treatment. Electricity, not too long applied at one sitting, adds another valuable therapeutic remedy. These, together with the routine treatment, well known to every specialist, forms the repertory of gynecology. Here allow me to add a word in regard to electricity in the treatment of disease. The meagre statistics give no conception of its therapeutic value. The expensiveness of a good working battery, the difficulty of keeping one in order, and the time it takes to apply it, places it out of the reach of the busy practitioner, and it is quite out of the question in the usually badly equipped dispensary. But here is where statistics could be made, and where all records should be open for inspection and all operations and treatment witnessed by the keen-eyed criticising student.

Of 712 cases of midwifery no deformity of the pelvis was present to warrant any doubt as to the results of normal labor. This seems a noticeable coincidence, as I have been seeking cases where surgical interference might be compulsory, and thus justifiable. I have yet to find my first case for cæsarean section or eleoelectrotomy.

These midwifery cases are mostly in the hands of midwives in this large and out-lying district of Brooklyn, where the German population predominates. There are some well-trained midwives who have been taught in the schools on the Continent, as many have witnessed when abroad. They can manage difficult presentations, make correct diagnoses, turn, control hæmorrhages and do many things with their trained fingers which doctors would do with instruments. But most of them are ignorant and abandon the case when difficulties present themselves, hence the physician when called finds complicated labor which might have been made normal with proper care in the beginning. This system of midwifery may account for the large number of still-births said to be recorded at the Board of Health.

They came usually to have their "time taken," and here the most modern methods may be tested and demonstrated to great advantage. Hegar's test for early pregnancy is quite easily carried out in detail. If the patient be instructed to wash out the rectum with plenty of water before coming to the clinic, the rest of the preliminary work is quickly done, the thinning of the uterine walls between the neck and the body of the uterus may be demonstrated when present.

The opportunity to diagnosticate presentations externally by the bimanual and shoulder method is of untold value for safety to the patient and experience to the physician, as the touch cannot be too well cultivated in obstetrics and gynecology.

Of 146 cases of laceration of the cervix 92 had left side laceration, 14 had the right side laceration, 31 double laceration, and 9 the stellated form. The last named gives much trouble as the appearance does not indicate surgical interference, yet when pulled apart with the forceps the jagged, bruised parts will heal quickly if trimmed off and a few stitches put in. In the interest of the patient I always advise operation, as subinvolution, misplacement, endometris, and one child sterility, accompanied with all the horror of dyspareunia are often quickly cured. The patient who presents herself in this condition is as completely unsexed as Tait's operation can make her. The desire is destroyed to fill the highest function of her womanly nature, thus causing her to hate motherhood and her marital duty. Cases of procidentia in the young and old, give the clinical physician most unsatisfactory results. The unrepaired perineum of long standing, the detachments of the vaginal walls in part or whole, together with the atrophy or subinvolution of the uterus soon renders the prolapsus a complete procidentia with recto- and cystocele complications. Hegar's operation for rectocele has given the best satisfaction whereby a pessary may be worn, but most operations vex the soul of the operator beyond endurance at times. Alexander's operation does cure some cases according to authority, and one awaits with hope for the time to elapse to learn if it is to be the successful mode of cure for all cases where there are no adhesions even with the aid of a pessary. I can report but one case: Two years have elapsed since the operation and she seemed quite cured when last seen at the clinic. The operation was a perineorrhaphy colporrhaphy and a double Alexander.

The early repair of the torn perineum is now considered such a minor operation that a student in midwifery should attend to it without unnecessary delay.

Capital operations comprising abdominal section are of little practical value to the clinical physician unless a special ward of a hospital is at his disposal. The hospital attached to this dispensary is an emergency one for surgical cases only. Therefore I have had to send all cases for abdominal section to such hospitals as have special facilities for such operations, and thus can only be a spectator of my own cases. Still, the education to make a correct diagnosis repays me for all trouble.

The proximity of New York to this part of Brooklyn, and the notability of successful operators, permits these cases to find their way into the great palatial hospitals of New York, with their princely endowed free beds, thus swelling the list of the already skilled operators in which that city abounds; one death more or less making little difference in the monstrous whirlpool of human misery, only so the case contributes to science in a scientific way.

Of all the brilliant triumphs of gynecological surgery, the operation known as "Tait's," or the removal of the uterine appendages, is unsurpassed in importance for the benefit of womankind. Fought and retarded as it has been through jealousy and undue conservatism, it has taken sixteen years to make and register a record that cannot be overturned. The prejudice against "mutilation"—proper in itself—is so easily put forth as an argument that the necessity for the operation is not yet fully appreciated in all quarters of the profession. No true physician will do any operation unnecessarily. When the wretched existence of a woman whom uterine disease has already unsexed, can be made bearable by this operation only, and when the highest prerogative of her sex is already denied, how can any scientific medical man deny to her the only means by which she has a large chance to so recover that her existence may be endurable, and much happiness obtained outside of marriage and offspring. As this is a disease of maturity, the sufferer has the right of choice, and should be advised to select the best and safest operators the surgical world affords.

As to the deformity of the menopause, most of the good works done by woman are done after that age, and the question might arise here: if the ovaries be removed after maturity, will the woman take on all the appearances of age which the menopause produces when the ovaries die naturally? Will it produce more nervous trouble than the amputation of other parts? I have only recent cases to draw upon and therefore cannot report. One case of "Tait's" of three years' standing, though embarrassed by gonorrhæa, keeps fresh and is more happy-looking than before the operation.

Cancer of the cervix has not often been met with, and when seen has been too far advanced for any but palliative treatment.

Strange cases like floating kidney, spleen, and other rare cases I will not report for want of time, and because there are too meagre statistics.

Tumors (fibroids) which I have treated with electricity, have all been improved. The size has diminished, the general health improved, and constipation been relieved.

The complications which embarrass all these cases deserve a separate paper, but time and place will not permit.

Every case which presents itself has a place and a history by itself, and at times overwhelms the physician with the magnitude of the work.

To the post-graduate physician, and all physicians must be such for life, there is no place like one of these institutions to perfect him in the practice of medicine. Never in a long lifetime of general practice will such material present itself to sharpen the senses and put eyes into the ends of his fingers. The places should be sought and filled conscientiously and should be accompanied by the enthusiasm of youth.

The practice of pure medicine is made up of little things which go to form the great ones. The treatment of disease requires an exactness of the perceptive faculties combined with judgment and understanding. Life is so short that one needs to become equipped early with such knowledge if he would contribute to scientific literature.

In this, the highest of the professions, "rank imposes obligations." The higher the standing, the deeper the learning, the more skilful the knowledge, the more the physician owes to the rising profession and to mankind.

In order to facilitate post-graduate education, and thus benefit the public by a better educated class of physicians, the free institutions must be remodeled. Masters must be put in charge, and the keen scrutiny of the advanced pupil will be on the alert for hidden points of interest. It is a well known fact that clinics attached to medical schools give the patient better treatment and more attentive care than those not so well favored. The question may here arise, ought pay beds for the rich to be allowed in hospitals which receive State aid? There may be a low fee for those able to pay, but let the rich sick, with his large fee, fill the private hospitals of the professors whose skill deserves it.

Pathological investigation hand in hand with practical medicine, together with the millions which rich men are placing at the disposal of the scientific world, ought to do much toward the advancement of science and the improvement of the human race. Yet the old landmarks in treatment must not be forgotten. These "still are an authority."

In our profession there is much drudgery which must be performed patiently. Years must elapse before the physician will reap the reward of his diligence, become the confidant of his peers, and the recipient of fees commensurate to his skill.

The masters of the Old World have visited us in the past few years. If they brought to us much that is true, they took away much that is practical. The Old World has given to science a few great medical minds, the New World has given *many* of more than mediocrity. There is no reason why the American surgeon should not lead the world. His keen eye, his steady nerve, his mechanical fingers, his noble nature open to competitive work, and with all his kindly, sympathetic nature toward the suffering, render him eligible. The field is full of material, and more good operators are needed, and where can the student of science learn but at the bedside of the sick poor, where to save life is first to be learned; afterwards will come good surgery.

Surgery has made vast advances in all departments for the past few years—so much so as to seem to leave other departments behind. But the physician follows closely by the side of the surgeon, and with authority says, Thus far thou shalt *cut*, and no further. When these two are combined in one person, the man is a perfect physician. Scientific knowledge is making such strides that there are no places for laggards. The masterly work done in our own country in the past two decades is a greater plea for better planned and endowed hospitals and clinics, better equipped teachers, better prepared students, than I can give from statistics in my narrowed field of labor.

Those brilliant masters in medicine who of late have "wrapped their robes about them and lain down to pleasant dreams," and to whom we all owe so much as teachers, were not idlers. They did not coquette with science, but courted in earnest, till death wedded them to immortal fame. On the tablets of time their names will be written with those of Hippocrates, Galen, and that host of immortals, as together with Sydenham and our own Benjamin Rush, examples for emulation to the coming multitude of students to whom is left the unfinished work, viz.: to advance medical science, and open every avenue for advanced study to all, irrespective of condition, race or sex.

The rhythmical lines of our American poet will apply to the art of medicine as to other departments of study:

> ' The heights by great men reached and kept,
> Were not attained by sudden flight,
> But they, while their companions slept,
> Went toiling upward in the night."

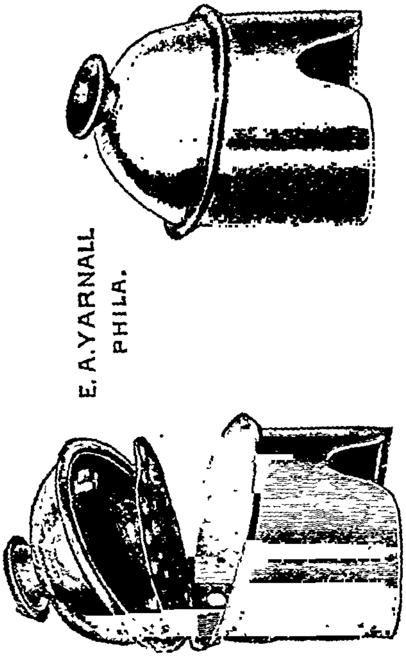
THE PORTUGUESE GOVERNMENT has ordered by a decree, dated March 13, that saccharin, whether alone or mixed with any other product, shall be sold by chemists only on the prescription of a legally qualified medical man. Every contravention of this enactment, as well as the employment of saccharin in the manufacture of sweetmeats and drinks, is made punishable by definite penalties.

A NEW INHALER FOR THE ADMINISTRATION OF ETHER OR CHLOROFORM.

Presented in the Section of Surgery and Anatomy at the Fortieth Annual Meeting of the American Medical Association, June, 1889.

BY FRANK WOODBURY, M.D.,
OF PHILADELPHIA.

With this inhaler, the construction of which will readily be understood from the accompanying cut, the anæsthetic to be administered is dropped into a funnel-shaped opening at the top and falls upon absorbent cotton contained in a chamber beneath, where it is confined by a perforated hinged diaphragm. The advantages obtained are cleanliness, convenience and cheapness.



The inhaler is manufactured by E. A. Yarnall, of Philadelphia.

CHRONIC THROAT AFFECTIONS OF RHEUMATIC ORIGIN.

Presented to the Ohio State Medical Society, May 23, 1889.

BY MAX THORNER, M.D.,
OF CINCINNATI, O.

Acute tonsillitis and pharyngitis have been known, even by the early writers, to be sometimes local complications of acute rheumatism. These manifestations in the throat are either of a prodromic nature, followed sooner or later by an attack of articular or muscular rheumatism, or they are established after other parts of the body have been affected, or the rheumatic throat trouble may be idiopathic. Thus we hear and read of angina rheumatica, tonsillitis rheumatica, etc., and have become used to treat these affections as manifestations of rheumatism, with results that are mostly very satisfactory.

Chronic rheumatic affections of the throat are little known, or at least described. Yet there is no doubt that we have, not infrequently, to deal with obstinate throat ailments that are associated with or due to chronic rheumatism. The first who called attention to this form of chronic laryngitis was Dr. E. Fletcher Ingals, of Chicago, in a paper read before the Laryngological Section of the Ninth International Medical Congress at Washington, in the year 1887.[1] Since that time I have paid more particular attention to this variety of laryngitis, and am able to corroborate the statements of Dr. Ingals in all essential points; in fact I could distinguish a form of chronic pharyngitis and laryngitis that was evidently due to rheumatism. These affections are, as a rule, very obstinate, and resist every treatment except that which is directed against the diathesis.

The most prominent symptom of this affection is pain either in the pharynx or in the larynx, or in both. We may, therefore, follow Ingals in calling it chronic rheumatic sore throat. If we take into consideration the nature of rheumatic inflammation in general, we can readily see why certain regions of the throat have apparently a predilection for localization of pain and other symptoms. Rheumatism is preëminently a disease of the motor apparatus. We may, therefore, expect to find the seat of the rheumatic affections of the throat in the numerous small muscles of the same, and the fibrous tissues connecting the muscles with the bones and cartilages, and with each other; and, indeed, the anatomical conditions for such affections are plentiful in this region. The muscular cover of the framework of the neck consists of a number of small muscles with comparatively extensive fibrous and aponeurotic connections, and these latter structures seem to be greatly predisposed to the localization of the rheumatic attack.

Regarding the etiology and pathology, not much has been ascertained as yet. We know that the chronic muscular rheumatism has a somewhat doubtful position in our classification of diseases; and yet it is a well known fact that we meet frequently with painful muscular affections which we are accustomed to term chronic muscular rheumatism, even if it were only for want of a better name. Pain in certain groups of muscles, as well after use as on pressure, exacerbations of the soreness during changeable weather, remissions during fine weather, no visible or palpable changes of structure, the absence of fever, the fact that anti-rheumatic treatment is the only one that affords relief, and the absence of any other plausible cause of the pain and impaired action, are the principal reasons of such a diagnosis. Thus we leave any speculations regarding the nature of the specific poison out of consideration. Taking this view, we may well accept the term chronic rheumatism, of which Dr. T. J. Maclagan, in his treatise on rheumatism,[2] says: "It is due to the presence and direct action of the rheumatic poison, and is not necessarily, or even usually, accompanied by any perceptible change in the textures involved. It consists simply in rheumatic disturbance of the affected tissue. It differs from the acute and subacute form, not in nature, but in degree, and sometimes in the special textures involved. It is a true rheumatic attack, in which the morbid process and local disturbance are not sufficiently marked to raise the temperature or to lay the *patient up. The textures involved* are the same as those which suffer in the acute and sub-acute forms, with the difference that the fibrous aponeuroses and muscles are more apt to be affected. Indeed, for clinical purposes cases of chronic rheumatism might usefully be divided into two classes—chronic articular rheumatism and chronic aponeurotic or muscular rheumatism."

The principal symptom of chronic rheumatic sore throat is, as the name implies, pain, localized in and about the pharyngeal and laryngeal regions, sometimes extending from the faucial region towards the jugulum. However, in most of the cases that have come under my observation the pain did not extend over so large a surface, but was more frequently limited to small circumscribed areas. There are a few spots which seemed to be predisposed to the rheumatic attacks, and these were the posterior pillars of the fauces, the root of the tongue (an analogon to the acute form of lingual rheumatism, mentioned by Henry T. Butlin), the whole region over the hyoid bone, especially the region corresponding to the location of the greater cornua, and the lateral parts of the thyroid cartilage. The anatomical conditions of the region around the hyoid bone, where the fibrous attachments of so many small muscles are centred, and of the outer surface of the thyroid cartilage, with the insertion of several muscles, explain readily the cause of this predilection. These rheumatic pains are intermittent, and worse during changeable weather. On pressure we find often exceedingly painful spots, particularly in the region between the hyoid bone and the trachea. Deglutition is generally, phonation sometimes, difficult and painful. The whole neck, including the large muscles, may be affected, so that we have a veritable myalgia cervicalis chronica, and even such an impairment of action may result that the head is turned more or less towards one side, in which case we have a form of torticollis rheumaticus chronicus. In addition to the pain, the patients complain often of a dry or burning sensation in the throat, and in a few of my cases the sensation of a foreign substance was very troublesome to the patient. Though some of the patients experience fatigue when speaking, I always failed to notice more than slight huskiness of the voice.

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[1] Trans. Ninth Internat. Med. Congress, Washington, D. C., 1887, Vol. iv.

[2] Rheumatism, its Nature, its Pathology, etc., by T. J. Maclagan, M.D. New York, 1886.

Locally there is more or less congestion of the mucous membrane, which is sometimes limited to small, circumscribed spots. These latter are always very sensitive. As a rule the congestion and swelling are not very pronounced, and may even be missing altogether. Erosions, ulcerations or neoplastic formations are never found in the throat. The vocal cords may or may not present such a condition as is found in chronic laryngitis, and their approximation was noticed to be somewhat impaired in a few cases, where one of the principal complaints of the patients was the fatigue experienced after any attempt at speaking. I never saw a case among these chronic affections like that of Laranza,[3] where, during an attack of acute laryngeal rheumatism, the intrinsic muscles only of the larynx were affected, the vocal cords being fixed in the middle line, which resulted in a complete aphonia. In this case all pain was absent.

So far only such cases have been under consideration where the seat of the rheumatic affection was either in the muscular or in the fibrous textures surrounding the pharynx and larynx. It has been shown, however, by Dr. Major, of Montreal, that inflammations of the crico-arytenoid joint also are sometimes caused by rheumatism.[4] He reports a case where, following an attack of acute rheumatism of the wrist and elbow joints, he could diagnosticate a rheumatic inflammation of the crico-arytenoid joint, with fixation of the vocal cord at full inspiration, and tenderness over the crico-arytenoid region. Such cases of acute articular rheumatism may, no doubt, at times continue in the chronic form, causing frequently anchylosis of this joint, in addition to such symptoms as we may find in the muscular form of this affection.

The diagnosis must, in addition to the local symptoms, be chiefly based on the history of the patient. Most of them have suffered from other manifestations of rheumatism before, or may have inherited a rheumatic diathesis. Sometimes the occupation exposes the patient to so-called rheumatic influences, as in case 1, reported below. However, I have seen cases where rheumatism could not be traced from the history or the occupation of the patients. The pain is different in character from neuralgic pains, and yields only to certain treatment, which allows us, eventually, to make the diagnosis *ex juvantibus aut non juvantibus*.

In fact the effect of treatment is sometimes the best aid in ascertaining the diagnosis. Local applications alone have failed in every instance, in my hands, to effect a cure or to afford more than temporary relief. In cases where the congestion was very pronounced, 5 to 10 per cent. solutions of nitrate of silver, or 3 to 5 per cent. solutions of chloride of zinc, used as a pigment, proved useful. Sprays were sometimes very effective in relieving the painful sensations temporarily. I have used with good results the solution of morphia, grs. iv; carbolic acid and tannic acid, grs. xxx; glycerine and water, āā ℥iv, as recommended by Fletcher Ingals.[5] Also counter-irritants applied to the skin above the painful spots, in the form of tincture of iodine or sinapisms, were used to advantage.

The best results I had, however, were from the administration of internal remedies. I have used in nearly all cases salol or salicylate of sodium in large doses, and found their action in more than half of my cases satisfactory, though not as prompt as in the acute form of rheumatism. When they failed, I seldom could derive benefit from any other remedy, though iodide of potassium, bromide of potassium, extract of phytolacca, oil of wintergreen, etc., as recommended by Fletcher Ingals, may be tried. In very obstinate cases I saw the best results following the application of the electric current, or the use of massage of the neck, or both together. Massage seems to be very effective in stimulating the circulation in the superficial as well as the deeper lymph vessels of the neck, as shown by Dr. Averbeck.[6] Electricity I have used in the form of the galvanic or Faradic current, and had good results in cases that were not amenable to any other treatment.

I have seen altogether nineteen cases which I would consider as suffering from chronic rheumatic sore throat. Thirteen of these were men, six women. Their ages were between 20 and 47 years. Three of the cases are very typical, and I shall abstract them in brief from my note-book.

Case 1.—F. K., 37 years of age, and ice carrier on an ice wagon, consulted me July 17, 1888. He had had a sensation of constriction in his throat since at least one year, and of late a decided pain, which was localized on both sides from the posterior pillars of the fauces towards the hyoid bone. He had never had rheumatism, but his father had been a sufferer from this disease for years. His occupation often compelled him to go, when overheated, inside the enormous ice-boxes in hotels. There was a well defined redness on both sides of the pharynx, extending downward towards the bottom of the pyriform sinus. The whole region over the hyoid bone was extremely tender, especially the cornua. Local treatment was unavailing. Salol in 15-grain doses every three hours relieved him as long as he continued taking it, but did not prevent frequent recurrences. Then I used the Faradic current daily on both sides of the larynx, and continued salol and local applications of chloride of zinc in 3 per cent. solution. Patient was discharged after two weeks' treatment and has been well since.

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[3] Quoted from Dr. J. Solis-Cohen's abstract in the American Journal of the Medical Sciences, January, 1889.

[4] Affections of the Crico-Arytenoid Articulation. N. Y. Medical Journal, Sept. 24, 1887.

[5] Trans. Thirty-eighth Meeting Illinois State Medical Society, May 17, 1888.

[6] Die Kehlkopfmassage. Deutsche Medizinalztg., 1888, p. 397.

Case 2.—Miss M. R., 21 years of age, consulted me Feb. 12, 1888. She had had sore throat since ten weeks. Gargles and home remedies had failed to relieve her. When 19 years old she had suffered from articular rheumatism, which had been preceded by a very sore throat. The whole pharynx was moderately congested, the tonsils were slightly enlarged. The base of the tongue was especially painful. Local application of chloride of zinc and the use of detergent and sedative sprays relieved her greatly, but not entirely. A few weeks thereafter she was worse again. I then had her take salol in addition to the local treatment, which effected a cure in four days. She was free until last fall, when, after exposure to rough weather, she contracted the affection again. The same treatment had the same result. This time I continued the salol for two more weeks and had her take an iron tonic, she being quite chlorotic at the same time. She has had no recurrence since.

Case 3.—A married lady, 40 years of age, of pronounced rheumatic diathesis, was first seen by me Nov. 3, 1888. Had been suffering with rheumatism for many years, and was not entirely free from it at the time she consulted me. She had noticed, during the changeable weather of the previous spring, that her throat was constantly sore; and, while she had been free from any inconvenience during the summer, she was greatly annoyed since changeable weather had set in. Pain was complained of on both sides of the throat. The whole neck felt sore, deglutition was slightly painful, and prolonged speaking tired her soon. There was locally only slight congestion, especially over the arytenoid cartilages. Action of the vocal cords was unimpaired. I employed several local applications, and gave internally salol and afterward salicylate of sodium, with but little relief. These two drugs had also failed in regard to her other rheumatic trouble. Iodide of potassium seemed to help her for a short while only, and massage as well as electricity gave her only temporary relief. Her case seemed to be not amenable to treatment. Finally, after she had spent a number of weeks at the hot springs of Mt. Clemens, Mich., she returned apparently cured.

These three cases show the average type of this class of affections. They are mostly all obstinate, and recurrences are common. Yet, with the treatment indicated, we may hope to get satisfactory results in a class of cases which otherwise might resist all our efforts, or might try our patience as well as that of our patients well-nigh to exhaustion. And this is the reason that I believe we may number them among the manifestations of chronic muscular rheumatism.

MEDICAL PROGRESS.

Contributions to the Study of Solid Ovarian Tumors.—**Madame N. N. Ostrogradskaia** calls attention to the rarity of solid tumors of the ovary, and dwelling particularly upon the fibromata, and citing the various opinions which have been held with regard to their structure. Some authorities consider them as purely fibrous tumors, others admit the existence of muscular fibres in small quantity, so that Virchow proposes to call them myo-fibromata. The writer, having had opportunity to study three cases at the clinic of Prof. Fenomenoff, of Kazan, reports the results of her histological examinations. She endeavors to answer the question whether the normal ovaries contain smooth muscular fibres. She has examined the ovaries of the new-born infant, of the adult woman, and of the lying-in woman (the specimen being taken from a living woman during a Porro's operation). Muscular tissue is always found in proportion increasing from infancy to adult life, and is greatest during gravidity. It is presumed that the muscular fibres are derived from the ovarian ligament. The tumors develop from the internal to the external border of the ovary.—*Gaz. de Gyn.*

Phenacetin as an Antirheumatic.—**Dr. Colischonn**, of Frankfurt, believes that phenacetin has not hitherto received its proper dues as an antirheumatic remedy, because it has been given in too small doses. Since the introduction of large doses he has secured very satisfactory results, and no longer employs salicylic acid, which is often objectionable on account of unpleasant secondary effects. Colischonn himself on one occasion took 120 grm. of salol in three weeks without producing any effect, while phenacetin, in two doses of 2 grm. each taken in the afternoon was sufficient, as a rule, to promptly relieve an attack of musculo-articular rheumatism in his own person within one or two days. Phenacetin, with a single exception where it was discontinued on account of vomiting, was always well borne by the dijestive organs, and aside from a few cases in which there was profuse sweating after four doses of 1 grm. each, its administration was free from disagreeable secondary effects. Fever promptly abated, and the temperature was often lowered by the second or third day to from ½° to 1° below normal, the pulse being also slowed from 10 to 15 beats. An exanthema was never observed.

For practical purposes the writer has divided rheumatism into four different forms. As shown by the following table the therapeutical effects were quite different in the various classes of cases. In cases of chronic articular rheumatism with deformed joints phenacetin proved a good remedy to relieve pain although it did not cure. The results of treatment are shown in the following table:

1. Acute rheumatic polyarthritis with fever; twenty-nine cases treated, nineteen cured.
2. Acute rheumatic polyarthritis without fever, but with swelling of the joints; nineteen cases treated with twelve cures.
3. Muscular rheumatism without fever (light cases excluded); twelve cases treated, with eight cures.
4. Musculo-articular rheumatism without fever; ten cases treated with two complete cures.

Acute articular rheumatism responds most readily to phenacetin. The afebrile varieties are more obstinate, but the most refractory of all are the musculo-articular cases, beginning slowly and depending upon changes of the weather; for such cases sweat-cures and *sool* baths are more effectual than all medicaments.

The writer recommends at least one trial of phenacetin in every case of rheumatism, four doses of 0.75 grm. each, or better, 1.0 grm. being given during the morning or afternoon, or two doses of 2.0 grm. each may be administered.—*Deutsch. Med. Woch.*

TREATMENT OF PNEUMONIA BY MEANS OF INJECTIONS IN THE TRACHEA.—PIGNOL has treated three cases of pneumonia by giving aqueous solutions of naphthol in the proportion of 0.2 naphthol, 1,000 of water. The quantity injected was from 250 to 350 cm., the sittings lasting for half an hour. The injections were well borne, and a marked diminution of dyspnœa was noticed after each one. The writer predicts brilliant results for this method in cases of pulmonary affections of an infectious nature.—*Ther. Monatshefte.*

STERILIZATION OF CATGUT.—At a meeting of the Society of Physicians, of Zurich, DR. C. BRUNNER demonstrated the results which he had obtained in disinfection, experiments made with catgut infected with the germs of splenic fever. He concludes that a 1 per mil. solution of sublimate suffices to quickly and easily render catgut aseptic. In the discussion which ensued, Prof. Krönlein said that since Kocher had abandoned catgut many a surgeon had become suspicious of it. He himself could not remember a case in which there was any well grouded suspicion for infection from catgut, though others have published contrary opinions. He regarded Brunner's experiments as decisive in settling a hitherto disputed point.—*Ther. Monatshefte.*

COMPRESSION OF A NERVE BY A CICATRIX.—At a recent meeting of the Société de Chirurgie of Paris, GERARD-MARCHANT presented a patient who had received a wound from the horn of a bull which was followed by marked motor and sensory disturbances. The patient was unable to walk and the triceps was greatly atrophied, although the subcutaneous fat remained well developed. The sensory troubles consisted of anæsthesia of the anterior surface of the thigh in the region supplied by the external musculo-cutaneous branch of crural nerve. Upon incision of a cicatrix present the crural nerve was found to be compressed by the cicatricial tissue; the nerve was disengaged however, and from this moment a marked improvement took place. Healing occurred by first intention and was complete in twelve days; the patient improved in a very satisfactory manner and was soon able to take long walks. At the time the case was reported there remained only a small area of anæsthesia the dimensions of which were scarcely half what they had been.

TREATMENT OF ENDOMETRITIS BY MEANS OF THE CURETTE.—In the *Société de Chirurgie* M. POZZI recently compared the methods of treating endometritis by means of the curette and by the application of chloride of zinc. He finds that the latter method has been employed in Germany and that it has relieved a certain number of cases. As to its objections, it has been alleged that it gives rise to stenoses appearing two or three years after treatment. Another objection offered is that it is impossible to control accurately the extent of its caustic action. In using a caustic as powerful as chloride of zinc there is room to fear the formation of fibrous tissue with a true sclerosis, which may possibly give rise not merely to stenosis of the cervical region, but even to closure of the openings of the Fallopian tubes. For these reasons the author believes that the method of curetting is safer. During seven years the author has applied the latter treatment successfully in more than 500 cases. He regards the preliminary dilatation of the uterus as useless except in cases of multiparæ and those in whom there are displacements, and even here it is to be employed rather to correct the direction of the organ than to dilate it. Immediate dilatation is sufficient. The only form of curette which he employs is one with blunt edges, and he does not mop out the cavity, regarding sublimate irrigation as more applicable. He also rejects the intra-uterine tampon, employing only the vaginal form. As regards the indications for the operation, he finds that it succeeds perfectly in cases of hæmorrhagic and catarrhal metritis, but if these are accompanied by extensive lesions of the cervix it is also necessary to perform Emmet's or Schroeder's operation. Curetting alone is often insufficient in chronic cases; and in these cases he often practices, with the greatest advantage, the biconical amputation of the cervix. If the metritis is accompanied by salpingitis, it is necessary to determine the character of the latter; curetting indeed has no beneficial effect in this direction except in cases of acute catarrhal salpingitis; on the contrary, it is dangerous in suppurative cases.—*Le Bul. Méd.*

Is Iodoform an Antiseptic?—Tilanus reports experiments which have been confirmed by the statements of Heyn, Rovsing, Schede, Lübbert, de Ruyter, Baumgarten, Duhring, and others. Culture media of peptone gelatine and peptone agar containing a large amount of iodoform in suspension, were inoculated with decomposed culture gelatine containing microörganisms of indeterminate character; the result was a very prolific vegetation. A similar result was obtained with the micrococcus putridus. Commercial iodoform added to the same kind of culture media and to bouillon, produced manifold cultures in all cases. The staphylococcus pyogenes aureus was not restricted in its vital activity under similar conditions. The writer therefore cautions all who use iodoform to employ it without the concomitants of other antiseptic agents, although he does not deny that iodoform may perhaps be decomposed by the secretions of wounds so as to set free the iodine, and thus exert an antiseptic action.—*Cent. für Gyn.*

The Effects of Diphtheria upon the Heart.—Doeblin discusses the various investigations that have been made relative to cardiac affections associated with diphtheria, and reaches the conclusion that cardiac thrombosis and endocarditis are not to be regarded as the sequelæ of diphtheria and the causes of fatal collapse, the former, because it only occurs after death, or a very short time before death; the latter, because in the first place it has been so regarded by only a few, and in the second place because it has been proved that granulations such as have been found upon the auriculo-ventricular valves, and regarded as proof of endocarditis, have been in the hearts of children who died from various diseases. The important fact to recognize is the impairment of the cardiac tissues, which is recognized macroscopically by the softening of the muscular structure, by numerous ecchymoses, by dilatation and thinning of the walls; microscopically by intermuscular nuclear proliferation and deposition of pigment flakes, by waxy degeneration of the muscle fibres with granular contents, as well as by fatty degeneration of greater or less extent. This myocarditis should be regarded as a result of the penetration of the diphtheritic contagium into the heart-muscle, a view which is explained by the experimental investigations of Letzerich and Rosenbach.

As regards the clinical appearance of this heart affection, the author distinguishes between cases where, at the height of the disease, paralysis of the heart occurs, and those other cases in which fatal collapse ensues only long after recovery had occurred; in the latter cases a very careful prognosis should be given; the cardiac paralysis is usually ushered in by severe vomiting. Physical examination of the heart usually gives negative results. The author raises the question whether the paralysis of the heart arises solely from the myocarditis or whether it may also proceed from the nervous system, and concludes that affection of the vagus is often to be regarded as the principal cause of the fatal issue.—*Centralb. für Klin. Medicin.*

Pneumonia and La Grippe.—Gaucher has reported to the *Soc. Méd. des Hopitaux* two autopsies made on subjects who died of pneumonia following *la grippe.* In both cases the macroscopical appearances were those of lobar pneumonia with gray hepatization, but the microscope showed the presence of an extensive pseudo lobular broncho-pneumonia with an abundance of leucocytes in the alveoli and bronchioles. The bacteriological examination revealed neither pneumoccus nor streptococcus; colonies containing a small bacillus were found but to this, however, little importance was attributed. Gaucher has seen several cases of intestinal grippe which simulated typhoid fever at the outset. Among the nervous forms the author observed a case in which there was a neuralgia of the trigeminal nerve which yielded only to sulphate of quinia; he also saw a case of pseudo-meningitis, in a young girl, which disappeared at the end of twenty-four hours; a case of præcordial angina with irregularity of the heart's action during convalescence; also cases of suppurative otitis, mastoiditis, and thyroiditis.

Vomiting of Pregnancy.—Gottschalk, of Berlin, recommends menthol in severe cases of vomiting of pregnancy. His formula is as follows:

Menthol	1.0
Spts. vini	20.0
Aq. dest.	150.0

One tablespoonful every hour.

With this he obtained an excellent result in a case in which three months before he was obliged to induce labor on account of vomiting, and conception occurring again he combatted the renewed vomiting in vain from the sixth to the thirteenth week.—*St. Petersburger Med. Woch.*

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SATURDAY, MAY 10, 1890.

THE RELATION OF EYE STRAIN TO FUNCTIONAL NERVOUS DISEASES.

DR. D. B. ST. JOHN ROOSA has made an important contribution to this subject in a paper read before the New York Academy of Medicine, in which he takes strong ground against those who find the almost exclusive cause of epilepsy, chorea, and hysteria, in over-exertion of the muscular apparatus of the eye. The subject divides itself naturally into two topics: errors of refraction, causing strain of the accommodative, apparatus, and want of equilibrium in the external muscles of the eyeball. With regard to the former, he calls attention to the fact established by him in 1877, and subsequently confirmed by C. S. BULL, that nearly all persons who are not myopic are either hypermetropic or astigmatic, and consequently, that the frequency with which these conditions are found in epilepsy and chorea is of no significance. Of late years, DR. STEVENS, the most enthusiastic advocate of the hypothesis under discussion, has laid most stress on want of balance in the external muscles. This led Dr. Roosa to institute an examination into the state of these muscles in persons who were not aware of any trouble with their eyes, with the result that out of one hundred and three subjects examined, only seventeen were found to have muscular equilibrium. The relative frequency of the various forms of muscular insufficiency was about the same as has been reported in cases of nervous disease, and their presence in such cases would seem to be nothing surprising, or, necessarily, important.

He also gives a table of the symptoms complained of by 3,584 patients who came to have glasses fitted. Nervous troubles formed but a small part of their complaints, and only three cases of chorea and none of epilepsy are reported. It might be objected that persons suffering from such diseases would be most likely to consult a *neurologist, although, but, as Dr. Roosa* suggests, it is singular, in view of the frequency with which chorea and epilepsy are said to be dependent upon ocular troubles which had escaped recognition, that they should not be more common in cases in which the eyes were recognized as the source of the symptoms. His experience leads him to think that when eye-strain is the cause of headache, there will usually be evident asthenopia, and that the origin of the trouble in such cases is much more commonly in the refractive than the muscular apparatus. In many instances in which accomodative asthenopia is associated with nervous disturbance, both conditions are due either to debility or to a neurotic constitution.

PROF. HEBRA, of Vienna, a man of a good deal of worldly wisdom, used often to express himself in this wise: "It is necessary that there should be surgical geniuses, but don't ever let a surgical genius operate on you." It is probably well that the attention of the profession should be called to all the sources of possible irritation in nervous disorders, and some of the best writers on this class of diseases recommend an examination of the eye as a matter of routine in all such cases, but perhaps, in the present state of our knowledge, it would be better not to send the patients to an enthusiast on the subject of graduated tenotomies. The correction of refractive errors by means of glasses is likely to do no harm, even if it fails to relieve the nervous symptoms, but it is to be feared that as much cannot be said of operations intended to restore the balance of the ocular muscles.

THE M. O. L. L. U. S. AND ITS MEDICAL FOUNDERS.

The recent celebration of the twenty-fifth anniversary of the organization of the Military Order of the Loyal Legion of the United States directed attention to the almost forgotten fact that two of the three originators of the Order were medical officers, DR. SAMUEL B. WYLIE MITCHELL and DR. PETER D. KEYSER, both of Philadelphia, of whom the latter alone survives. He was also the only one of the founders present at the meeting, Colonel Zell being in Florida.

On the 15th of April, 1865, Dr. Mitchell and Dr. Keyser met on their way towards the State House in Philadelphia to learn the particulars of the death of PRESIDENT LINCOLN, and went into the office of COL. THOMAS ELLWOOD ZELL, at Sixth and Chestnut streets, with whom they talked over the great national calamity, when the proposition was made to call a meeting of officers and ex-officers then in the city to take appropriate action in the matter. At the same time it was resolved to form an association on the plan of the Order of the Cincinnati, and the whole affair was then and there mapped out, Dr. Mitchell proceeded at once to publish the call in the newspapers, which was promptly responded to, and after several meetings the Order was established, with Col. Zell as President, Dr. Mitchell as Secretary, and Dr. Keyser as Treasurer, the latter afterwards becoming the first Chancellor and Gen. Horatio Sickles Treasurer. Dr. Samuel Brown Wylie Mitchell entered the Army as Major and Surgeon of the 18th Pennsylvania Infantry, April 24, 1861, and was honorably mustered out as Bvt. Lieutenant-Colonel U. S. V., March 13, 1865. Thomas Ellwood Zell became Captain of the 121st Pennsylvania Infantry, September 2, 1862, and was Lietenant-Colonel of the 3d Battalion of Pennsylvania Infantry when mustered out January 29, 1864. Dr. Peter Dick Keyser entered the service as Captain af the 91st Pennsylvania Infantry, September 21, 1861, was honorably discharged for disability August 15, 1862, commissioned Acting Assistant Surgeon U. S. Army, June 18, 1864, and resigned March 9, 1865.

Its Æsculapian parentage has, doubtless, had much to do with making the Loyal Legion attractive to medical officers. The medical corps of both Army and Navy, notably the latter, were largely represented at the anniversary celebration at Philadelphia, many of the companions having traveled long distances for the purpose. Their presence on that occasion was significant evidence of the patriotic and loyal spirit which actuated the members of the medical profession during the late war, as it did during the Revolution, when DR. JOSEPH WARREN, wearing a General's stars, gave up his life for his country at Bunker Hill, and DR. BENJAMIN RUSH, as Surgeon-General of the Continental Army, effectively organized the medical department, without which no army can long preserve its physical prowess or its military efficiency. Medical men are proverbially unassertive, not only as to what concerns their several individual interests, but as well in the neglect to recognize and proclaim the valorous and praiseworthy deeds of the members of their own profession. We fear that not many remember that DR. SAMUEL CRAWFORD was one of the distinguished Major-Generals of the Civil War, or that DR. ALBERT J. MYER, Assistant Surgeon U. S. Army, was the originator of the Signal Service, which has become so important a part of our military establishment.

MEDICAL ASPECTS OF IMMIGRATION.

DR. JOHN B. HAMILTON, of the Marine-Hospital Service, was recently a witness before the Congressional Committee on Immigration, investigating the problems that are constantly arising at New York Harbor. Dr. Hamilton has been temporarily engaged in supervising the sanitary and medical interests of immigrants in consequence of the Treasury Department having assumed the responsibity of the disembarking of thousands of immigrants who have until lately been looked after by the State authorities. There are now 150 immigrants in hospital and not less than thirty of them are insane. Only one of the latter is fit to be returned to the country whence he came without escort. Those who come here insane or who become so within a year after arrival may very properly be sent back; by so doing there would be a diminution of one-third of the inmates in the governmental asylums. There is a large number of immigrants who are afflicted with incurable diseases. There is no regulation as to how long the Government is bound to take care of sick and disabled foreigners, but there should be some limit to the Government's responsibility in such cases. There is no good reason why the limit may not be fixed at the keeping of those persons just so long as shall be necessary to get them in a condition suitable to their return without injury. The restriction of immigration, as regards the criminal and the contract laborer, has been effected considerably in advance of the questions bearing on health and intelligence, but these latter must be reached in due time. Certain of the contagious diseases are not knowingly permitted to enter, and a form of inspection is believed to exist at specially exposed ports of embarkation. *The Lancet* recently pointed out the superficial character of some of this inspection, and indicated the great gains that would sanitarily flow from a proper performance of this duty, which when once satisfactorily and competently established regarding infectious diseases may be gradually extended to embrace mental and other non-contagious maladies which damage the individual in his relations to a useful citizenship, but do not imperil the public health.

HYDROGEN PEROXIDE IN DIPHTHERIA.

DR. ELDER, of Seaton, Ill., writes to the *New York Medical Journal* concerning a series of cases of diphtheria for which the peroxide of hydrogen was applied as a membrane-solvent. Others have written in our periodicals on this subject, notably DR. SQUIBB of Brooklyn, DR. LOVE of St. Louis, and DR. MAJOR of Montreal, but Dr. Elder's results appear to have been so decisive that a description of them will pardon a little repetition. He says: "I armed an applicator with a pledget of absorbent cotton, saturated it with the peroxide, in the full strength of the ordinary "ten volume solution," and rubbed it over the membrane several times. The effect was magical. The membrane did not dissolve, but softened; it took on the appearance of whipped cream, let go its hold on the mucous surfaces, and was then easily removed by the applicator. It left a raw surface, showing that the membrane had been really diphtheritic in character." This treatment, in the opinion of the writer, had not the effect of preventing the re-formation of the membrane, but it left a clear surface for the application of other antiseptics and prevented auto-infection. No sign of blood poisoning appeared in this series of cases. The applications were made once an hour during the four or five days, before the membrane ceased to form. Dr. Elder is not positive in regard to the strength of the solution used by him, since the bottle from which he obtained it had no label showing whether it was full strength or not, but he believes that it was the regular ten-volume solution. Dr. Love, one of the first to publish his use of this agent, commonly diluted this solution with three times its volume of water: he particularizes the deodorant property of the drug in cases giving off an offensive discharge. Dr. Major began with a solution even weaker that of Dr. Love, increasing it to the full strength as the treatment advanced; in his experience the solution removed the membrane by corroding it, so that the extruded fragments present a more or less porous or honeycombed appearance.

EDITORIAL NOTES.

HOME.

TO VISIT MAMMOTH CAVE.—The Louisville and Nashville Railroad have made such arrangements that those delegates who may desire to visit Mammoth Cave can stop over at Mammoth Cave Junction by notifying the conductor between Louisville and the Junction. The agents of the road at the Mammoth Cave Hotel must endorse their tickets, which will then be available on later trains from the Junction to Nashville. Those who desire to visit the Cave after the meeting of the Association will confer with Secretary Atkinson at Nashville.

THE PREPARATION OF PAPERS.—It is a matter of utmost importance that by previous preparation the papers submitted at the annual meeting should in all respects be so complete as to need no revision after they are read and pass into the hands of the secretaries. It would in most instances be a special service to the publishers if the papers presented were type-written. The saving of time and expense in the matter of proof corrections is one which fails, in most instances, to be appreciated.

If papers are to be illustrated, the cuts should either accompany the papers, or full and explicit memoranda should accompany each paper with reference to them.

It would hardly seem necessary, and yet we are obliged to add, that a paper, when read, should pass *immediately* to the Secretary of its Section, as the property of the Association, and that its publication elsewhere before it appears in THE JOURNAL is in direct violation of the rule of the Association, and which is a condition of its acceptance.

SUGGESTIONS TO THE OFFICERS OF THE SECTIONS.—In THE JOURNAL of May 3 the preliminary programmes give evidence of diligent efforts and of abundant success in the securing of full supplies of papers to be read at Nashville. We find that two hundred and twenty-eight articles are already promised, and still the lists are incomplete. We hardly see how these papers are to be appropriately presented and properly discussed during the brief hours allotted to the sessions. May we venture to suggest to the officers of the Sections that they group the papers that are closely related and let them be read in succession, and that the discussions follow at the close of the readings, thereby saving valuable time and the avoidance of repetitions, which must of necessity follow if the papers are to be discussed separately.

REPORTS OF DISCUSSIONS.—With the presentation of about two hundred and fifty papers in the various Sections, it is evident that the Original Department of THE JOURNAL will be taxed to its utmost to give them a place during the year. In connection with these papers, it often happens that the discussions which they elicit are quite as valuable as the papers themselves, and if it were possible to publish them in full THE JOURNAL would be only too glad to employ shorthand reporters. As it is, either THE JOURNAL must be doubled in size, or a portion of the regular papers must go unpublished, or the discussions must be limited to such outline reports as those who participated in those discussions are willing to reduce to writing at the time. Stenographic reports would accumulate a mass of material which, no matter how valuable, could only in small part be utilized.

THE MEETING OF RAILWAY SURGEONS.—The annual meeting of the National Association of Railway Surgeons, after a most enjoyable and profitable meeting at Kansas City, adjourned on May 2, to meet at Buffalo, N. Y., May 2, 1891. The following are the officers elected for the ensuing year: President, Dr. Warren B. Sutton, St. Louis; First Vice-President, Dr. S. S. Thorn, Toledo; Corresponding Secretary, Dr. A. G. Gumaer, New York; Recording Secretary, Dr. E. R. Lewis, Kansas City; Treasurer, Dr. R. Harvey Reed, Ohio.

FOREIGN.

QUEEN VICTORIA has granted Richard Sarell, Esq., M.D., M.R.C.P., authority to wear the Insignia of the Order of the Osmanieh of the Third Class, which His Imperial Majesty, the Sultan of Turkey, has been pleased to confer upon him, in recognition of his services whilst actually and entirely employed beyond Her Majesty's Dominions, as Professor of Clinical Surgery in the Imperial School of Medicine at Constantinople.

THE Nizam of Hyderabad has founded three annual scholarships, each of the value of £300 per annum, to be held in England for four years. Native students of medicine, law, and physical science or engineering will be eligible for the awards. On their return to Hyderabad the services of the recipients are to be placed at the disposal of the Nizam's Government for four years, or until the receipt of permanent employment.

PROFESSOR KOCHER, the well-known surgeon of Berne, has been elected an honorary member of the Medical Society of London, not, as stated in a paragraph which has gone the round of the German medical press, of the British Medical Association. Professor Kocher is said to be the first Swiss practitioner since the encyclopædic eighteenth century luminary, A. von Haller, on whom the honorary membership of the Medical Society has been conferred.

GRATEFUL PASSENGERS.—In gratitude of their deliverance from the perils of the voyage in the Inman liner *City of Paris*, the passengers, before landing, subscribed £600 as a thank offering, and appointed a committee to decide upon its application. It is understood that the committee have decided to hand over £400 to the Seamen's Hospital, Liverpool, for its general purposes, and to endow with the balance a bed in the same institution for sick American sailors.

MEMORIAL OF PROF. VON VOLKMANN.—Steps are being taken to erect a permanent memorial of the late Prof. von Volkmann in the form of a statue or bust, to be placed in the Halle Surgical Clinic. A committee has been formed to further the project, Dr. Ackermann, Prof. von Bergmann, Dr. Hiller, Prof. F. Krause, and Dr. Schrader, being the medical members on the acting committee. Sir James Paget, Sir Joseph Lister, Sir W. MacCormac, and Sir Spencer Wells have joined the movement, and will be happy to forward contributions from their countrymen.

TOPICS OF THE WEEK.

LEPROSY.

Perhaps there is no disease respecting the nature and conditions of which so little is accurately known as leprosy. History tells us that it was widely diffused through many European countries in the Middle Ages, and for several centuries it was an object of terror. People shunned a leper as they shunned pestilence, although pious monks gave themselves up to nursing the victims of the strange malady for the love of God, and lazar-houses were set apart for their reception, and the ordinances of religion were modified to meet their special needs. Then by degrees the disease died out almost everywhere, and now it only exists in a few corners of Europe and in certain definite localities in other parts of the world. One peculiarity is that it seems to have its fixed seats, its chosen haunts, from which it does not wander. Certainly it does not spread like those infectious disorders, which when they break out in one spot may diffuse their malign influence over a whole country or an entire continent. One reason why our knowledge of leprosy is so fragmentary, and in a scientific sense valueless, is that few opportunities are found for skilled observation and research. No case is known to exist in England, unless it be the one which was supposed to be discovered in London a few months ago. Mr. M'Cormick, of St. Matthew's Vicarage, Brighton, has been paying a visit to the leper settlements of Norway, one of the few countries where the disease is still prevalent to any considerable extent, and the facts he has gathered will modify some of the more common impressions. He states with confidence that leprosy is not contagious; he has this from competent judges, who have been much among lepers, and who tell him that they have never been able to trace a case where nurse, doctor, or attendant had been infected. This is a fact, and not a mere opinion, and so the more conclusive, assuming it to be well attested, and of which there seems to be hardly any ground for doubt. There is the further circumstance that the Moravian missionaries have been working among the lepers for seventy years, and that of twenty-one who have spent their lives in ministering to these poor people not one has taken the disease. If this can be relied upon, we need not be under any great anxiety for the young lady who has gone to nurse the lepers in the settlement where Father Damien lived and died. Mr. M'Cormick adds a disquieting remark, which would hardly be called for if his general statements are correct: he says this young lady will be safe "if she uses the most ordinary caution." It would seem to follow that there are circumstances under which the disease may be contracted from contact with one suffering from it. Then there is the case of Father Damien himself. On this point Mr. M'Cormick cites a statement "which has lately appeared in the newspapers," made by Dr. Hyde, of Honolulu, that "Father Damien did not take up his abode at the leper settlement till he became a leper himself." This is rather loose both in origin and expression, and something more precise is desirable. It is reassuring to be told that in Norway the disease is dying out under proper treatment. Isolation is regarded as the remedy. The disease is believed to depend mainly upon hereditary transmission, and if all the existing cases could be rigidly secluded no new ones would arise. In this way the lepers have fallen from 2798 in 1859 to not much over 700 at present. It appears to be upon isolation that reliance was chiefly placed in the Middle Ages, and that may have been the reason of its extinction. If so, there is a concurrence between ancient and modern experience which confirms the belief entertained in Norway that the disease will die out there in the course of the next fifty years.—Editorial *Provincial Med. Journal.*

CLINICAL TEACHING OF OBSTETRICS.

Nothing can better demonstrate the deficiencies of the usual American medical education than the general surprise and approbation expressed at the practical teaching of obstetrics in the Medical Department of Harvard University. At this institution each student is required to personally attend at least four cases of labor and submit a written report of them. One of these he is expected to attend under the instruction of a teacher of obstetrics. There is nothing remarkable in this course except that it is practically unique in this country. The average medical student receives his diploma without any other experience in obstetrics than that gained from his text-book and his teacher, assisted, maybe, by a lay-figure or manikin. Ninety-nine per cent. of medical graduates leave their scholastic halls with no better equipment than this. They know nothing of operative obstetrics beyond abstract general rules, and it is only in the course of time and actual practice that they can become safe accoucheurs.

If there were any insurmountable barrier preventing the better teaching of obstetrics in our schools, this condition of things might be condoned; but there is none. Every city or community in which the existence of a medical college may be pardoned offers facilities that need only be grasped. The arrangement at Harvard may be duplicated by any school not situated at some country cross-road, that has the conscience or the energy to desire it. Every city provides, ready at hand, a more than sufficient amount of clinical material to give the student all the practical knowledge necessary. Recent years have seen a vast improvement in the way of bedside instruction in medicine and in surgery, an improvement that requires the existence and maintenance of a hospital for its accomplishment, but obstetrics has hitherto been sadly neglected, though the opportunities for its proper study lie ready at hand.—*Pittsburgh Med. Review.*

MORVAN'S DISEASE.

Dr. Morvan, who is a physician practicing at Lanilis, in Brittany, described in the *Gazette Hebdomadaire* for 1883 what he called "Analgesic Paralysis, with Whitlows on the Superior Extremities." When his first patient, a man, came before him, before opening the abscess he told him not to flinch, and to his great surprise he found that the man did not move in the slightest, because he had not felt the knife. Morvan and others have published several other cases in French journals, and Jürgensen has described one in the *Berl. Klin. Woch.*, 1889. Charcot has collected all these references in an article in *Le Progrès Médical,* March 15, 1890. It appears that the chief features of the disease are, first, pain in the fingers, and then paralysis with wasting of the muscles, first of the hand and subsequently of the forearm. The pain passes away, and is succeeded by anæsthesia and analgesia, then indolent abscesses appear scattered about on the hand and forearm. The last stage is necrosis and sloughing of the bones and soft parts, especially of the hand. The temperature of the affected parts is low. The disease begins sometimes in one hand, sometimes in the other, but it always soon becomes symmetrical in the hands and forearms. It is extremely slow in its progress. Some of the patients have remained under observation for twenty years. No means of arresting its progress is known. It has to be distinguished from Raynaud's disease, from that form of scleroderma which affects the hands symmetrically, and from leprosy, but the diagnosis from all these is easy. Morvan's disease, however, much resembles the condition produced by some forms of syringomyelia, and the resemblance is the more close because cavities in the spinal cord are much more frequent in the cervical region than elsewhere. In syringomyelia the muscular atrophy is more marked and more extensive than in Morvan's disease. The disturbances of sensibility are more widely distributed in the former, but all are not equally lost, for the patient may feel pain but cannot distinguish between hot and cold objects; and, lastly, in syringomyelia any trophic disturbance may occur; the presence of abscess is accidental, but it is characteristic of Morvan's disease.—*British Medical Journal.*

WOOD AS A SOURCE OF HUMAN FOOD.

Probably no modern science presents a wider field for speculation than that of chemistry, and more especially, perhaps, that branch of the science which treats of organic compounds. Since the day when Wöhler overthrew for ever the notion that organic substances were exclusively the products of the operation of a so-called vital force by his discovery of the synthesis of urea, a great number of bodies, hitherto obtained only in Nature's laboratory, have been successfully built up, as a result of a careful and most minute study of their exact nature. The discovery of the preparation of substances by artifice, more particularly the dyes, has, as a matter of course, influenced very considerably home and foreign industries. What shall be said, then, when chemistry promises to solve hard problems of political and social economy? In an address delivered at Heidelberg, by no less eminent an authority than Victor Meyer, it is announced "that we may reasonably hope that chemistry will teach us to make the fibre of wood a source of human food." What an enormous stock of food, then, will be found, if this becomes possible, in the wood of our forests or even in grass and straw. The fibre of wood consists essentially of cellulin, $C_6H_{10}O_5$. Can this be made to change into starch? Starch has exactly the same percentage composition, but, as everyone knows, it differs very much in its properties, and the nature of its molecule is probably much more complex. Cellulin is of little or no dietetic value, and it is not altered, like starch, in boiling water. It readily gives glucose when treated with strong sulphuric acid, as is easily shown when cotton-wool, which is practically pure cellulin, is merely immersed in it. Starch gives the same product when boiled with weak acid. The author further quotes the researches of Helreigel, which go to show beyond dispute that certain plants transform atmospheric nitrogen into albumen, and that this process can be improved by suitable treatment. The production, therefore, of starch from cellulin, together with the enforced increase of albumen in plants, would, he adds, in reality signify the abolition of the bread question. It must be borne in mind, however, that theory, fascinating and promising though it may be, is not always capable of being followed by a practical result.

THE ANTISEPTIC POWER OF COFFEE.

Dr. Lüderitz has recently made a number of observations on the destructive power of coffee upon various microbes. He found that the organisms all died in a longer or shorter period—*e. g.*, in one series of experiments anthrax bacilli were destroyed in three hours, anthrax spores in four weeks, cholera bacilli in four hours, and the streptococcus of erysipelas in one day. It was, however, remarkable that good coffee and bad coffee produced precisely similar effects. He believes that, as previous observers have suggested, the antiseptic effect of coffee does not depend on the caffeine it contains, but on the empyreumatic oils developed by roasting.

COLLECTIVE INVESTIGATION.

Some weeks ago a collective investigation of the influenza epidemic was organized in Germany at the suggestion of Prof. Leyden, of Berlin. A table of fifteen questions relating to the etiology, symptomatology, course and sequelæ of the disease was issued to all medical practitioners in the Empire. Answers are said to be pouring in in numbers beyond all expectation, and the committee is now considering how best to deal with the enormous material which has been collected.

MEDICAL EDUCATION IN THE UNITED STATES.

If America has sometimes seemed to be open to the charge of neglecting the more scientific side of medicine and medical education, that reproach is in a fair way to be removed. Hardly a month passes but we hear of fresh foundations of laboratories and chairs. At the present time a large new laboratory is in course of erection as an extension of the accommodation already provided in the Harvard Medical School, Boston, U. S. A., and the University of Pennsylvania, having obtained an endowment fund of $200,000 for the department of hygiene, is about to erect a hygienic laboratory at a cost of $50,000.—*British Medical Journal.*

PRACTICAL NOTES.

ASENITE OF COPPER.

The remedy which I have left for final consideration is probably the best, owing to the wide range of application during certain seasons of the year, the summer and autumn, when you will have frequent opportunities for using it in practice. I refer to arsenite of copper, Scheele's green, which is prepared in the form of tablet triturates without compression, each tablet containing one $\frac{1}{100}$ of a grain. Ordinarily you might suppose that no therapeutic effects would be observed from such a small dosage, but manufacturing chemists' tell me that both arsenic and copper, the constituents of this product, can be detected when the proportion is so small as one part to ten thousand.

In the summer season we have frequent calls to attend children and adults suffering from diarrhœa, dysentery, cholera morbus, and like diseases. A history covering several days' illness may be secured; the stools are slimy, watery, and sometimes bloody, and are as frequent as from five to twenty daily. Arsenite of copper may be used with marked benefit in these cases. Dissolve one of the tablets in from four to six ounces of water, and have the patient take one teaspoonful of the solution every ten minutes for an hour, and hourly thereafter. If the patient is a child 6 months old or less, of course but a small portion of this dose can be given, but several drops can be given in the manner and at the times indicated, and the results, it will be found, are quite as satisfactory as when adults are treated. When desired the drug can be prepared in the form of tablets, each containing the exact amount of the medicament for a single dose, and this precludes the need for the use of water, which is sometimes contra-indicated.

Having used this preparation now for nearly two years, and having witnessed the best results from its use, not only in my hands, but in the hands of several hundred other physicians who have reported to me, I feel warranted in speaking to you upon the subject thus strongly, and trust, when you get into practice, that you also will be as successful in its employment.—Aulds, *N. Y. Med. Journ.*

THE DANGER OF IODIDES IN ACUTE NEPHRITIS.

Professor Primavera (*L'Abeille Médicale*) declares that it is dangerous to prescribe the iodide of potassium or sodium in acute nephritis. In support of this opinion, he cites the following, one of many similar cases he has seen:

A boy, 14 years old, developed acute nephritis fifteen days after an attack of scarlatina. The urine was scanty and albuminous, and contained large quantities of hæmoglobin and numerous casts. A milk diet was prescribed, but no drugs. Some days later, after the albumen had greatly diminished, another physician prescribed iodide of sodium, which was immediately followed by an increase of the albumen and casts, and the appearance of blood. The iodide was stopped and the albumen and blood rapidly diminished. On giving the iodide a second time the same symptoms were produced, and again disappeared when the drug was withdrawn.

Primavera is convinced that the iodides are dangerous in acute nephritis. They may be used in syphilitic nephritis, but even here must be carefully watched.—*Medical News.*

BOYCOTTING THE INTERNATIONAL MEDICAL CONGRESS.

While the medical journals of England, America, Germany, Austria, Italy, Scandinavia and other countries, are freely and gladly publishing accounts of the coming International Medical Congress at Berlin, the French medical journals are almost completely silent on the subject. We observe very few French names upon the lists of authors of papers, and, altogether, it looks as though the doctors of France intended to "boycott" the International Medical Congress simply because it is to be held in Berlin. Such action would be most unworthy of the members of a liberal and learned profession, and would eventually do the French school serious harm in the eyes of the world.—*Medical Record.*

SULPHO-CALCINE IN DIPHTHERIA.

A case of diphtheria came into my hands recently, which had been resigned as past hope by the former physician. The event fully justified his opinion. This case presented a difficulty, sometimes met with, where the preparation of iron and nascent chlorine, upon which I usually rely, proved too strong for the child's mucous membranes; while it could not destroy the diphtheria when diluted. The day before the child died, her brother, 18 months of age, was seized with the same disease, in a malignant form. Knowing that it would be useless to rely on the chlorine mixture, a trial having shown the same effect as in the older child, I determined to employ sulpho-calcine; Dr. Love having reported favorably upon it. The liquid was applied in full strength to the false membranes, while the mouth, throat and nose (which began to discharge ominously) were washed out hourly with as strong dilutions as they could bear. The child recovered, although slight epistaxis occurred, showing how grave was the nasal affection. This remedy deserves a further trial.—Waugh, *Times and Register.*

SOCIETY PROCEEDINGS.

Gynecological Society of Boston.

205th Regular Meeting, October 10, 1889,

The President, W. Symington Brown, M.D., in the Chair.

PATHOLOGICAL SPECIMEN.

Dr. Henry O. Marcy presented an inflated unilocular cyst of the right broad ligament, which he had removed the previous week, assisted by Dr. A. P. Clarke, of Cambridge. The case was one of exceptional interest in that it had been allowed to develop until the sac and contents weighed 42 pounds. The girth of the patient below the umbilicus was over 50 inches. The operation was at last necessitated on account of dyspnœa and impeded circulation. The cyst had developed from the right broad ligament, not only without pedicle, but had carried up before it a fold of the peritoneum from its attachment in the median line to a point posterior to and on a line with the head of the cæcum. The question of its removal, therefore, was somewhat difficult of solution. A portion of the cyst wall could be brought into the line of the abdominal incision and stitched to the peritoneum, then drained and allowed to close by granulation. This necessitates, at the best, a long and tedious convalescence, rendered doubly objectionable from the weak and exhausted condition of the patient. The wall of the sac along the border of its attachment was covered with extraordinary varicosed veins. This seemed to threaten unusual danger from hæmorrhage. The emptied cyst was put on tension at a considerable distance from its attachment on either side, the peritoneal investment was divided (as shown upon the inflated specimen), and the cyst was enucleated. Divided edges were caught and held by three or four pairs of Spencer Wells' large compression forceps, while Dr. Marcy sewed through its base with a double tendon suture in an even continuous seam, measuring about nine inches in length.

Owing to the extraordinary size of the vessels a second line of sutures was carried parallel to the first through the double fold of the peritoneum, about one-half an inch nearer to the median line. The tissues were resected parallel to this, and the peritoneum was intrafolded by a line of continuous tendon sutures, taken by a modified Lembert stitch. The abdominal wall was closed after Dr. Marcy's usual method, in four layers of tendon sutures, and sealed with iodoform collodion. The patient rallied well from the operation, and has thus far gone on to a rapid convalescence.[1]

Dr. Henry O. Marcy read a paper entitled

CURE OF HÆMORRHOIDS BY EXCISION AND CLOSURE WITH THE BURIED ANIMAL SUTURE.

The medication of wounds, and treatment based upon aseptic measures, marked the present as an era of surgical evolution, to which the surgery of the rectum should be no exception. The writer emphasized the views of Mr. Whitehead in regard to the pathological changes usually found in these troublesome affections. It was probable that the changes incident upon retention of the rectal contents and other causes acted to bring about dilatation of the vessels, rather than the superincumbent weight of the portal column of blood. When the venous plexus of hæmorrhoidal vessels had become pronouncedly varicosed, they had as a covering the lax submucous tissue of the rectum close to the anus, and when put on tension were protruded as a ring of transverse rugæ around the anal aperture. Certain of the rugæ were developed into rounded protuberances, and sometimes even into fungoid tumors of considerable size. The veins sometimes ruptured into the connective tissue, and changes followed which resulted in tumors of various sizes, color and density, called "external piles." The strain in defecation or gentle pressure of the finger from above downward would frequently cause soft, fleshy, exquisitely sensitive, grape-like masses to protrude—"internal piles." The mucous membrane covering these would frequently be found congested and abraded, so that more or less continuous hæmorrhage ensued.

It is only by dissection of the parts in the living subject that the extraordinary dilatation of the hæmorrhoidal plexus of the veins can be fully appreciated, and this is the essential factor to be eliminated in the process of cure. Dr. Marcy reviewed in a judicial and careful manner the different methods in more common use. Although the method for the cure of hæmorrhoids by the use of the ligature had been considered the safest, surest and most manageable procedure, he condemned its use as unsurgical, viewed from the standpoint of modern wound treatment, in that it necessarily produces necrosis of tissue, while its attendant conditions of fermentative decomposition exposes the patient to the same dangers, although, perhaps, in less degree, as infection in any other part of the body. It is also tedious and painful, and deals in a blind and uncertain way with an undemonstrated pathological factorage. The stoutest advocates of the ligature admitted that abscesses, general septic poisoning and other dangers, as secondary hæmorrhage, were not wanting in the experience of the most careful and practical surgeons. Because of these objections the clamp and cautery came into vogue. It had advantages over the ligature in that the primary wound was aseptic. Dr. Marcy thought, however, that for the same general reasons that have caused its abandonment in nearly every other wound made by the surgeon, the clamp and cautery should be relegated to history as a relic of barbarism. It might be questioned whether deep burning was safer than deep cutting in any disease. The pain inflicted, the slowness of the healing process, and often the imperfect results, are abundant reasons for desiring a better method.

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[1] The patient was discharged from the hospital at the end of the third week.

Few of the modern methods received more speedy attention, or had been more gladly accepted by the profession, than the injection of hæmorrhoids by carbolic acid or other agents, to produce their destruction. The general consensus of surgical opinion, however, is condemnatory, inasmuch as, no matter how carefully injected, the tissues, not infrequently, which it was desirable to remove, failed to be acted upon, while the fluid escapes into the tissue where there is the least resistance, and the connective tissue surrounding and supporting the hæmorrhoidal plexus is often destroyed—tissues very important to preserve; while the deformed veins, the real pathological factors, remain unchanged, leaving the patient in a worse condition than previous to the injection. Dr. Marcy believed each of the above methods surgically defective and unscientific. Mr. Whitehead had clearly shown that his method of dissection was safe, that the hæmorrhage was not excessive, and that a rapid cure resulted. It is certainly scientific in that by a clean dissection the parts desirable to eliminate are removed. To control the hæmorrhage Mr. Whitehead dissects the veins little by little, and as soon as divided, the free margin of the severed membrane above is attached to the free margin of the skin below by a suitable number of sutures.

Dr. Marcy's method is different from that of Mr. Whitehead in that he first encircles with a row of continuous tendon sutures the base of the hæmorrhoidal plexus before division. His method is briefly given as follows: Care must be taken, previous to the operation, to have the large intestines thoroughly emptied, usually by an active cathartic, supplemented by a large injection given a few hours before operation. The patient is etherized, placed in the lithotomy position, the limbs supported by a Clever crutch or some modification of it. The parts are thoroughly cleansed with the sublimate solution, and the sphincter stretched to produce paralysis of the muscle. The rectum is then washed with the sublimate solution, care being taken that none of it is allowed to remain. A considerable pledget of wool, into which iodoform has been freely dusted, is placed in the rectum. Along the line of the junction of the mucous membrane with the skin, either with a sharp knife or scissors, division is made from the central line posteriorly from below upwards on both sides to the median line above. With a little care this division is made without injury to the plexus of vessels. The loose connective tissue fascia is easily separated by the finger or a blunt instrument quite deeply, cutting any connective tissue bands which may appear. The mucous membrane above the plexus is divided transversely in a somewhat similar manner. The deformed hæmorrhoidal flexus is thus separated from its surroundings, except at its base. A needle with eye near the point, threaded with tendon, is carried behind the mass, emerging beneath the mucous membrane, unthreaded, rethreaded with the opposite end of the tendon, and then withdrawn. In this way the entire base is encircled by a line of deep double continuous sutures. The advantages derived from this manner of sewing is that an even continuous compression is secured, from which it is impossible for any tissue to escape. The stitches are not drawn too closely, since they are used to protect against necrosis of the enclosed parts. The plexus of vessels is dissected with scissors from just above the line of sutures. The mucous membrane is now stitched by a continuous tendon suture to the line of division first made through the skin.

Dr. Marcy prefers a running blind stitch taken from side to side from within outwards, which also buries the external line of sutures. In this way it will be observed that no stitches are left in sight, that the divided edges are evenly and accurately approximated, restoring the parts to their normal condition. The operation is conducted with all possible precaution to prevent infection of the parts, irrigation being continued throughout. When coaptation is complete the united edges are carefully dried, dusted with iodoform, and covered in with a layer of iodoform collodion. The bowel may be moved the third or fourth day. Prolonged constipation resulting in hardened fæces is to be avoided. Primary union may be expected with resultant cure. The surgical rule should be enforced which the anatomy of the parts teaches—the careful removal of the whole hæmorrhoidal plexus. By whatever method attempted, it is the failure to do this which gives failure in result. Dr. Marcy summarizes the advantages of the use of the buried tendon sutures over the excision as practiced by Mr. Whitehead, as follows:

First. Constriction of blood-vessels *before* division, which certainly diminishes the loss of blood and ensures against secondary hæmorrhage.

Second. A much more accurate and early adjustment and closure of the parts.

Third. Continuous animal sutures which are buried and incorporated into the tissues have a decided advantage over the interrupted silk suture, which is ever to be considered as foreign, and if not removed must be thrown off by suppuration.

All the important vessels are secured *before* division by the continuous encircling sutures, which serve a still further purpose of coapting and holding at rest the divided connective tissue. Necrosis of the parts is entirely avoided, and with the care practiced in modern surgery the wound is maintained aseptic.

All operative wounds made in healthy tissues, without exception, should be closed layer by layer with the buried animal sutures, the skin itself not excepted, and when properly done, drainage is no longer required, and the wound can be at once made germ-proof by hermetically sealing with iodoform collodion: To this rule amputations should prove no exception.

Dr. Marcy's experience has been ample to test thoroughly the method as practiced by himself, and he confidently recommends it to the profession on account of its simplicity, safety, and exceptional results.

208th Regular Meeting, January 9, 1890.

The President, Dr. W. Symington Brown, delivered the Annual Address, on

THE WELFARE OF THE PROFESSION.

He said: At the risk of being tedious, I beg to recall your attention to the truth that the medical body is a profession, not a trade. I do so because it appears to me that there is a growing tendency in some parts of our country to forget this assumption; and, if the change occurs, we may bid goodby to further progress. For the essence of trade is selfishness, and I do not know anything narrower or more degrading than the worship of No. 1. As Bruno said, 300 years ago: "When science is made traffic, wisdom and justice shall quit the earth."

In such a meeting as this it is not necessary to do more than state the argument, as a foundation for the remarks which follow. The medical profession puts the welfare of the patient first; before emolument, before fame, before everything. A physician who looks primarily to what he considers his own interests has descended to the trade level; he has virtually deserted from our ranks. A surgeon who conceals his mode of operating, or a physician who keeps secret a remedy, has sneaked away from our ranks and entered the trader's. This assertion does not interfere with the circumstance that we earn a living by the exercise of our profession. Of course we do; but we do not make that the *first* object—it is only a secondary or tertiary end; the first one being always, without exception, the welfare of our patient. It has also been asserted that ours is the only profession which cuts away the ground from under its own feet by explaining and enforcing the laws of health. This is only partially true. All genuine physicians are sanitary missionaries; they do their best to teach their patrons how to avoid disease; but I do not expect the time will ever come when mankind will be able to get along without surgeons, and it is more than probable that when mankind have reached the millenial stage, physicians will be held in higher esteem and be better remunerated than they are at present. It will not be necessary, therefore, to discuss the propriety of turning our profession into a trade as a means of betterment.

I propose to consider, very briefly, a few proposals intended to promote the welfare of the medical profession, and also to offer my own opinion as to the only feasible way in which it can be permanently improved. In fact, this short address will somewhat resemble the answer to Pope's question, What is an interrogation point? The poet, you will recollect, was small and deformed, so the answer, "A little crooked thing that asks questions," happened to hit the nail on the head.

And in the first place, to start with, I think there can be no reasonable doubt that the medical profession is overcrowded. All the professions are overcrowded; all the trades are; and as for clerks, sewing-women, and day-laborers, their name is Legion, with an ever-increasing number unenlisted. I intend to confine my remarks to the members, present and prospective, of the medical profession; but we cannot entirely ignore the fact that mankind is one family, and that whatever exerts an influence on one portion of it necessarily affects the whole. A recent writer in a medical journal asserts that dull trade always increases the number of medical students, a result which, while it may rejoice the hearts of college professors, is not likely to be hailed by practitioners as a happy prospect.

And the common notion that epidemics and surgical accidents constitute a harvest for the doctor is about as far from the truth as any falsehood can be. *Our pecuniary welfare depends upon the general welfare.* When a large portion of a community is overwhelmed by sickness they do not earn anything; and as the old Scotch proverb says "It is not easy to take the breeks off a Highlandman" for the very good reason that he does not wear any.

One of the most popular plans to prevent overcrowding in the medical profession is to lengthen the time of tutelage. In the majority of American colleges the present period is nominally three years, but really nearer two years. Even Harvard University has not the courage to make the four-year term imperative; and only recommends it. But I think that every candid physician will admit that four years is too short a time in which to qualify a youth for practice. The period of tutelage should extend over six years,—four years for elementary studies and a modicum of practice work, and two devoted entirely to hospital or other experience, before graduating.

Although a mistaken policy prevents college managers from lengthening the time of study, the inexorable law of competition, which includes the survival of the fittest, is doing it for them. What are the numerous Polytechnic schools, which are springing up with mushroom-like rapidity, but a practical protest against ineffectual tuition, and a demonstration of the necessity for devoting more time to preparation before engaging in the Battle of Life.

To devote more time to the curriculum would be a good thing no doubt. I am in favor of so doing. But the question arises, would that prevent overcrowding? I think not. Lengthening the period of study, other things being equal, would have the effect of turning out a better class of practitioners, men more skilful than before; and, consequently, would sharpen competition to that extent. At present a large portion of the field lies fallow, and a great disparity of talent exists. A small handful of men reap the great prizes, and the rest, even when successful, get only a moderate living. But when a larger number of well-qualified practitioners enter the field there will be fewer big prizes, and much harder rivalry between the rank and file.

It is scarcely necessary, however, to discuss this part of the subject theoretically; because we have an object-lesson before us in Europe, especially in Prussia. In these countries, the time devoted to study and clinical tuition is much longer than with us, and yet the profession in Germany is not only overcrowded, but very poorly paid. The best English colleges also require students to study longer than we do; yet the average fee charged by general practitioners for a visit in England or Scotland does not exceed fifty cents, and many only charge twenty-four cents a visit. There, too, as here, cities are overrun with dispensaries, where advice is free to all comers, and medicine is furnished at nominal rates, or gratuitously, to thousands of patients abundantly able to pay current charges.

Partial attempts (most of them unsuccessful) have been made to introduce into the United States the system of medical clubs so common in Great Britain. Probably some members present are not familiar with this plan; so I will try to explain its workings. Medical clubs are of different grades; but the great majority of them are made up of working men. The fee for membership is generally low—many of them less than one dollar a year—for which sum the doctor employed by the club agrees to furnish medical attendance during the year, and in some cases certain inexpensive medicines. Then there are family clubs, in which for a marvellously small sum, the physician contracts to attend the whole family, including obstetrical cases.

Some of you may have noticed that the sale of a medical practice is a thing of frequent occurrence in England. If you look over the *British Medical Journal*, or *The Lancet*, you will find whole columns filled with advertisements announcing the sale of medical positions; and a new business has arisen (unknown in this country), that of agents who deal exclusively in these sales. Now the main reason why such sales are so frequent in Britain is the circumstance that the sale generally includes the medical clubs referred to, poor-law positions, surgeonships to collieries, etc., so that the buyers are sure of a certain income for the money invested. It is true that in England a man must first possess a license before he can legally practice medicine, while in Massachusetts anybody may dub himself a doctor by simply hanging out a painted shingle. All the length we have got in excluding quacks is that a quack must possess some sort of a diploma (bogus or genuine) and must have fleeced the public for three years in the same township, before he is allowed to sign a certificate of insanity.

In England, the majority of physicians in good practice employ one or two assistants—technically called *locum tenens*—and in this way manage to attend cheap patients by proxy in simple cases. I have sometimes wondered that this practice has not been adopted here, which shows that Yankee doctors at least are not so expert at money-making as Europe gives them credit of.

I leave to you the discussion of the question whether, if we adopted the system, medical clubs would relieve overcrowding. I do not think that they would.

The next plan for our welfare is of a more ambitious character. It is that of forming medical parishes—similar to those of religious denominations,—in which the doctor will take care of the body, as the clergyman at present takes care of the soul. Under this arrangement the medical incumbent would of course receive a salary, with possible perquisites from outsiders; and he would remain in his parish as long as he and his parishioners were satisfied with each other. His duties would include prevention as well as cure. He would be an authority in matters of hygiene, relating to diet, dress, shelter, and secular education. When the art of ventilation has been invented, and microbes have been mastered, he would probably be expected to lay down rules about fresh air, night air, contagion, vaccination and other scientific trifles. And above all, like his co-laborer the clergyman, he would be expected to set a good example himself in all these matters, and not freeze his stomach with ice cream after eating a hearty meal, or poison himself with nicotine at all times, convenient and inconvenient.

A writer in one of our medical journals has recently proposed that we adopt this parish plan, as a remedy for overcrowding. As far back as 1861, I wrote and delivered a lecture on the same subject, which somehow escaped cremation before I left for my post in the army. I fear that its arguments would now prove stale, flat, and unprofitable. At all events, I have no doubt that whatever the inherent merits of the plan may be, it would not prevent overcrowding.

I think it must be apparent to every careful observer (and physicians ought to be good observers), that, whatever plan effects a cure, it must be applicable to all classes—professional men, merchants, artizans, and laborers. One symptom is present in all the cases namely, want of employment; the remedy, therefore, whatever it is, must open up opportunities for employment which are at present closed. About a million and a half of able bodied men and women in the United States are unable to secure remunerative employment. I do not include the lazy or criminal classes; that is another and a very different problem. But it is an undeniable fact that an immense body of willing workers, decent, honest people, with dependent children, cannot find work to do, and, of course, cannot pay for medical attendance when they are sick. It is this class alone which furnish the *raison d' etre* of Dispensaries and Charity Hospitals. Nobody proposes to establish hospitals for lazy bummers or professional criminals. Lowering the cost of medical treatment by means of clubs does not meet the difficulty. The lowest class of workers, who, at the best, only earn enough to pay for food, clothing and shelter, cannot afford to pay medical fees at all; and, when out of work, they have to be supported by the town.

This is neither the time nor the place to discuss the minute details of political economy. I do not intend to do so. All I want to do is to emphasize the truth, that overcrowding in our profession—followed by fierce competition and meagre fees—can only be cured by some system which will permanently raise the condition of the lowest laboring class by opening up avenues of employment which are at present closed by legal restrictions. Suppose, for example, that the average wages for unskilled labor were raised from $5 a week to $8 or $10, is it not evident that a large class of patients would be able to pay for medical attendance who at present get it for nothing? I admit that some of the persons thus benefited would probably squander the extra wages on rum or Attleboro jewelry; but human nature is pretty much alike in all classes, and the love of life is not confined to fashionable society.

Every physician performs a large amount of gratuitous work because he knows that the patients cannot pay him. When he is satisfied that they can, this amount of unpaid work is going to be materially lessened; for nobody likes to be humbugged, not even doctors.

In closing, allow me a word or two concerning the welfare of our own Society. I think that it will be absolutely necessary to take steps to increase the number of members. We need an infusion of new blood. As a physician's practice increases, he is apt to curtail his attendance at medical meetings. I believe that in doing so he or she makes a big mistake. Many more practitioners shorten their lives and lessen their usefulness by overwork and worry than by taking things easy. Even if we place the advantages of attendance on the lowest round of the ladder, I am sure that it pays to come here once a month. It is at least a mode of relaxation; and it must be a very poor meeting indeed where one does not learn something, or have his memory refreshed about forgotten verities. And then the close contact of mind with mind sometimes strikes out sparks of light at unexpected moments. I am sincerely sorry that death has robbed us of two of our most pugnacious members; for although we prefer brotherly love as a regular diet, there is no harm in an occasional mental set-to as a means of starting our sluggish circulation. I was sorry to see so small a gathering at the Memorial meeting for Dr. Warner; although the presence of Dr. I. Bowditch, who is a host in himself, helped to make up for the deficiency.

I would also respectfully suggest that each working member (by which phrase I mean those who attend) might make it his business to secure one or two new members. If the profession were only aware how much valuable matter—pathological specimens, instruments, and papers—is brought before us every month, more outsiders would esteem it an honor to be elected Active Members of the first Gynæcological Society that was ever founded in the world.

NECROLOGY.

Dr. Henry H. Smith.

Dr. Henry H. Smith, one of the most eminent and widely known members of the medical profession of Philadelphia, Pa., died April 11, 1890, at his residence 1800 Spruce street, after an illness of ten days that ended in pneumonia. He was in the seventy-fifth year of his age. He has been an active member of the American Medical Association for many years, and will be remembered by many in this and other countries as the courteous and efficient Chairman of the Executive Committee Ninth International Medical Congress of Washington, 1887. We copy the following sketch of his career from the *Evening Telegraph*, April 11, 1890. [N. S. D.]

Dr. Henry Hollingshead Smith was born in this city December 10, 1815. His father James S. Smith was a distinguished lawyer. Dr. Smith was educated in Wylie & Engle's well-known classical academy. He graduated at the College Department of the University of Pennsylvania in 1834, and studied medicine with Professor William E. Horner, and graduated in medicine at the University in 1837. He was then Resident Surgeon of the Pennsylvania Hospital for two years under Drs. Thomas, Harris, Randolph, and Norris, and visited the London, Paris, and Vienna Hospitals in 1839. He spent eighteen months in study at various European institutions, and on his return, in 1841, he settled in practice and commenced instructing private classes in surgery, and delivering lectures on bandaging and other surgical topics.

He became a surgeon to St. Joseph's Hospital in 1849, surgeon to the Episcopal Hospital soon afterwards, one of the surgical staff to Blockley Hospital in 1854, and was Professor of Surgery in the Medical Department of the University of Pennsylvania from 1855 to 1871, when he became Professor Emeritus. At the beginning of the civil war he was appointed to organize the Hospital Department of Pennsylvania, and at the same time made Surgeon-General to Pennsylvania. In this capacity he contributed much to the efficiency of the medical service of the Pennsylvania Reserves and other State regiments. At the first battle of Winchester, Va., he originated the plan of removing the wounded from the battle-field to large hospitals in Reading, Philadelphia, Harrisburg, and other large cities, and established the custom of embalming the dead on the battle ground. He organized and directed a corps of surgeons with steamers as floating hospitals at the siege of Yorktown, and served the wounded after the battles of Williamsburg, West Point, Fair Oaks, Cold Harbor and Antietam. After thoroughly organizing the department of which he was in charge, he resigned his commission in 1862, and has since been actively engaged in the practice of his profession. He won the warmest thanks of uncounted relatives by inaugurating the system of embalming the dead on the battle-ground. No act in the medical and hospital department of the army won more praise than was at that time and has since been awarded him.

He resigned his Professorship of Surgery in the University in March, 1871, after thirty years' labor as a teacher, and was elected Professor Emeritus in that institution. As a lecturer he is described as "excellent and unexceptionable in his style of speaking—quiet, fluent, self-possessed, systematic, and thorough. As a surgeon he is regarded as conservative and very considerate of final results, and therefore successful." In all his various positions he was constantly performing the most important and often capital operations; while a large private practice enabled many to profit by the fruits of a singularly extended and well-grounded experience. Since his retirement from the University he had been attending to his private practice. He was for three terms President of the County Medical Society, and at the International Medical Congress of 1887 he was Chairman of the Executive Committee.

Dr. Smith was widely known as a medical author. His publications include "An Anatomical Atlas," to illustrate William E. Horner's "Special Anatomy" (Philadelphia, 1843), "Minor Surgery" (1846), "System of Operative Surgery, with a Biographical Index to the Writings and Operations of American Surgeons for 234 Years" (2 Vols., 1852), "The Treatment of Disunited Fractures by Means of Artificial Limbs" (1855), "Professional Visit to London and Paris" (1855), "Practice of Surgery" (2 Vols., 1857–63), and numerous surgical articles in medical journals. And he has translated from the French "Civiale's Treatise on the Medical and Prophylactic Treatment of Stone and Gravel" (Philadelphia, 1841), and edited the "United States Dissector" (1844), and "Spencer Thompson's Domestic Medicine and Surgery" (1853). In October, 1843, he married Mary Edmunds, oldest daughter of Professor William E. Horner. A widow and three children survive him.

ASSOCIATION NEWS.

American Medical Association—Forty-first Annual Meeting.

Section on Practice of Medicine.

The paper upon "Systematic Therapeutics," to be read before the Section on Practice of Medicine at the annual meeting at Nashville, aside from its intrinsic interest, will be a novel innovation in the way of presentation. It will be automatically delivered by a phonograph, the cylinders being sent from Boston. The feasibility of so doing has been practically demonstrated, a speech having been recently delivered to the machine and reproduced before an audience of 6,300 so that it was perfectly audible in all parts of the house. A resonator like an immense horn is used for this purpose, the only noticeable difference in elocution being a slight nasal twang such as would come from speaking through a horn. Dr. Warren is thus enabled to sit in his office thousands of miles away from his confrères, and yet to speak to them through this wonderful machine as if he were present in person, even the tones of his voice being maintained.

Dr. Warren will also take the opportunity to demonstrate some of the many practical values of the phonograph to the medical profession.

Programme of Committee on Dietetics.

1. Surgical Alimentation, by W. C. Wile.
2. Milk, by I. N. Love.
3. Feeding in Wasting Diseases, three sections, by Ephraim Cutter and J. A. Cutter.
4. Does Alcohol Conserve Tissue? by E. Chenery.
5. The Chemistry of Cooking, by Traill Green.
6. Feeding the Young, by O. S. Phelps.
7. Diet in Consumption, by Herbert Judd.
8. Mastication as a Factor in the Development of the White Race in America, by E. A. Wood.

The Committee's report will be presented on the third day of the session.

E. A. Wood, Chairman.

The above was received too late for insertion in last week's issue.—Ed.

BOOK REVIEWS.

A Guide to the Diseases of Children. By Jas. Frederic Goodheart, M.D., F.R.C.P., Physician to Guy's Hospital and Lecturer on Pathology in its Medical School; Physician to the Evelina Hospital for Sick Children. Rearranged, Revised and Edited by Louis Starr, M.D., Clinical Professor of Diseases of Children in the Hospital of the Univ. of Pa., etc. Second American from the third English Edition with numerous formulas and illustrations. Pp. 772. Philadelphia: P. Blakiston, Son & Co. 1889.

One of the most striking features of this excellent work is the lucid and agreeable style in which it is written. It is not always easy to explain why one book is tedious and another thoroughly pleasant to read; in this instance the charm seems to be the author's simplicity of expression. A deserved compliment is paid the American reviser by the author who has been glad to avail himself of various useful hints found in the first American edition.

Wood's Medical and Surgical Monographs. Vol. 4, No. 2. November, 1889. Pp. 597. New York: Wm. Wood & Co.

The volume contains 1st, a brief paper on the subject of "The Surgery of the Knee-Joint," by C. B. Keetley, F.R.C.S.; 2d, a valuable contribution entitled "Aids to Ophthalmic Medicine and Surgery," by Jonathan Hutchinson, Jr., F.R.C.S.—this work occupied nearly 100 pages, and is well illustrated; 3d, a work on the subject of "Bacteriological Technology for Physicians," by C. J. Salomonsen, translated by William Trelease, from the 2d revised Danish edition. This last number occupies 160 pages; is a very valuable guide to the study of bacteriology, and is particularly designed for the use of those who are obliged to take up this study at home without the assistance of a teacher; it is well illustrated.

The Urine, the Common Poisons, and the Milk. Memoranda, Clinical and Microscopical, for Laboratory Use. By J. W. Holland, M.D., Prof. of Medical Chemistry and Toxicology, Jefferson Medical College of Philadelphia. Illustrated. Third edition, revised and much enlarged. Philadelphia: P. Blakiston, Son & Co. 1889. Pp. vi, 84; price, $1.00.

This is an admirable presentation of the subjects indicated in the title, and is deserving of the highest commendation. The principal feature of the work is the accuracy of description which accompanies each test. It is a common fault of works on chemistry that the directions are loosely stated, so that the inexperienced encounter many difficulties in making tests, and are thereby led into various fallacies. Although arranged specially for use by students in the laboratory, it will be found a most excellent work for practitioners, both because of its precision and its conciseness. It is very well illustrated, and has cuts of most of the apparatus required for analytical work.

The Student's Surgery, a Multum in Parvo. By Frederick James Gaut, F.R.C.S., Senior Surgeon to the Royal Free Hospital. Philadelphia: Lea Bros. & Co. Chicago: A. C. McClurg & Co. Pp. xxx, 817; price, $3.75.

As its title indicates, this is a work designed for students, and is intended as an aid in the final examinations. To be useful in this direction, such a work requires to be ample in scope and concise in detail, and the author has certainly been most successful in carrying out these ideas. Illustrations are numerous and well executed, and the arrangement of subjects is well adapted for easy reference. The present work is an epitome of the author's "Science and Practice of Surgery."

MISCELLANY.

Official List of Changes in the Stations and Duties of Officers Serving in the Medical Department, U. S. Army, from April 26, 1890, to May 2, 1890.

By direction of the Secretary of War, the ordinary leave of absence granted Capt. Louis A. La Garde, Asst. Surgeon, in order No. 70, current series, Ft. Assiniboine, Mont., is changed to a sick leave; and the extension of said leave on surgeon's certificate of disability granted him in S. O. 43, April 14, 1890, Dept. of Dak., is further extended one month on surgeon's certificate of disability. Par. 5, S. O. 97, A. G. O., April 25, 1890.

Lieut.-Col. James C. McKee, Surgeon, is granted leave of absence for one month and fifteen days, by direction of the Secretary of War. Par. 4, S. O. 98, A. G. O., April 26, 1890.

By direction of the President, Capt. John de B. W. Gardiner, Asst. Surgeon, will report in person to Brigadier General Wesley Merritt, President of the Retiring Board at Ft. Leavenworth, Kan., for examination by the Board. Par. 4, S. O. 99, A. G. O., April 28, 1890.

Official List of Changes in the Medical Corps of the U. S. Navy for the Week Ending May 3, 1890.

Medical Inspector T. Woolverton, detached from Navy Yard, Washington, D. C., and wait orders.

Medical Inspector G. S. Beardsley, ordered to the Navy Yard, Washington, D. C.

Surgeon H. P. Harvey, detached from the "Ranger," proceed home and wait orders.

P. A. Surgeon A. C. Heffenger, ordered to the "Ranger."

Surgeon J. H. Gaines, detached from hospital, Hot Springs, Ark., and granted sick leave.

Asst. Surgeon L. W. Spratling, ordered to hospital at Hot Springs, Ark.

Asst. Surgeon E. S. Bogert, Jr., ordered to the "Vermont."

Asst. Surgeon F. W. Olcott, ordered for examination preliminary to promotion.

P. A. Surgeon E. W. Auzal, detached from the "Yantic," and resume duty on board the "Galena."

Official List of Changes of Stations and Duties of Medical Officers of the U. S. Marine-Hospital Service, for the Two Weeks Ending April 19, 1890.

Surgeon C. S. D. Fessenden, to proceed to Marion, Ky., on special duty. April 16, 1890.

Surgeon P. H. Bailhache, detailed as chairman of Board for physical examination of officers of Revenue Marine Service. April 12, 1890. To proceed to Portland, Ore., Tacoma, Seattle, and Port Townsend, Wash., as inspector. April 16, 1890.

Surgeon W. H. H. Hutton, detailed as chairman of Board for physical examination of officers of Revenue Marine Service. April 10, 1890.

Surgeon W. H. Long, to proceed to Marion, Ky., on special duty, relieving Surgeon Fessenden. April 18, 1890.

P. A. Surgeon P. C. Kalloch, detailed as recorder of Board for the physical examination of officers of Revenue Marine Service. April 12, 1890.

Asst. Surgeon G. M. Magruder, detailed as recorder of Board for physical examination of officers of Revenue Marine Service. April 10, 1890.

Asst. Surgeon G. M. Guitéras, to report to the Superintendent of Immigration, New York, for special duty. April 12, 1890.

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ORIGINAL ARTICLES.

ELECTROLYSIS IN THE TREATMENT OF STRICTURE OF THE RECTUM.

Read in the Section of Surgery and Anatomy, at the Fortieth Annual Meeting of the American Medical Association, June, 1889

BY ROBERT NEWMAN, M.D.,
OF NEW YORK
CONSULTING SURGEON HACKENSACK HOSPITAL, LATE SURGEON NORTHWESTERN DISPENSARY

In 1882, I published a few cases of stricture of the rectum treated by electrolysis; some had complications.[1] Previous treatment by other means in some of these cases, one even by proctotomy, had given no lasting benefit to the patients. Electrolysis finally cured the stricture; and in one case the permanent cure was demonstrated by the post-mortem specimen, presented to the New York Pathological Society—the patient meanwhile having died from some other disease.

This latter case was treated in 1871, and I believe was the first application of electrolysis in the treatment of rectal stricture. Recently some successful operations have been reported here as well as in London, and that induces me to give a detailed statement of my unpublished cases, in connection with the old report, including what other operators have done.

History of the Operation.[2]—In 1871 the author first used electrolysis in stricture of the rectum. In 1872 Dr. Beard applied only external galvanism, and in the same case he and Dr. A. B. Crosby electrolyzed scirrhus of the rectum with strong currents through needles inserted in the tumor.[3]

In 1873, Dr. Groh of Olmutz used electrolysis in cancer of the rectum, also with needles. The patient was temporarily improved; the fetid odor and pain disappeared after the first application.[4]

In 1875, Dr. Lente applied galvanism, but as he does not state in what manner, it probably was external galvanism; later the patient was operated upon with the knife.[5] It will be seen that no other operator antedates the cases of 1871, but later different operations with needles, strong currents, and for complication of cancer were done—therefore I believe I am justified in claiming priority in the treatment of rectal stricture by electrolysis.

The plan of treatment followed out in my cases is almost identical with my method of treating urethral strictures by electrolysis. The success achieved in the latter was my inducement to apply the method practically in stricture of the rectum, which was based on the same theory, namely:

Electrolysis is the process of decomposing a compound body by electricity, producing a galvanic chemical absorption of the stricture. This theory is not new and was established eighty-nine years ago by Nicholson, confirmed later by Faraday, and can be found in all text-books on elementary physics and chemistry. Among the recent literature on this subject I am pleased to mention a valuable article of Dr. George H. Rohé, of Baltimore, "The Electrolytic Decomposition of Organic Tissues,"[6] in which the author defines the theory of electrolysis, and explains the action in a very clear and admirable way, introducing all the new nomenclature as adopted by the International Electric Congress in Paris. These theories have been widely accepted, and at the present time our gynecologists, with very few exceptions, practice the absorption of indurated tissues with almost uniform success. Under such circumstances, it is astonishing that some surgeons who call themselves eminent, still persist in an unwarrantable denial of the power of electrolysis, against all theory and practice, as shown by reliable statistical reports, supported by documentary evidence and witnesses.

Instruments.—The treatment applied is virtually the same as in strictures of the urethra. The armamentarium consists of a good galvanic battery with conducting cords, handles, with sponge electrodes, a few binding screws, a set of rectal electrodes of different size and shape, and a milliampère meter to measure the electric current. The electrodes have at one end a metal bulb, copper or brass, silver-plated or nickled is best. The form is flat or round, the latter more egg-shaped; they are made in sets of different sizes; the length is from 1/4 inch to 1 1/4 inch, and the circumference from 1 1/8 to 3 inches.

The stem of the electrode, except at the extremities, is insulated with hard or soft rubber—some are flexible, others stiff. If larger sizes are needed, I use a metallic bulb, similar in shape and size to a vaginal electrode, which are from 3 to 5 inches in circumference.

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[1] See New England Medical Monthly, September, 1882
[2] Ibid
[3] Arch Elect and Neur, N Y, 1874 1, p 98
[4] London Med Record March 5 1873
[5] Hayes' Jour of the Amer Med Sciences, January, 1875
[6] New York Medical Journal, December 1, 1888

Modus Operandi.—The patient may be placed in the Sims position on the left side, but in the majority of cases the lithotomy position on the back is preferable, because in the examination and operation the anatomical relations of rectum and colon with the sigmoid flexure can be better appreciated. The galvanic battery is brought into action with the switch at zero. The sponge electrode, wet with warm water and connected with the positive pole of the battery, is placed firmly in the palm of the patient's hand, but in some cases may be pressed on the abdomen. The negative metal electrode is lubricated with glycerine and inserted *per anum* to the seat of the stricture, and only then the electric current is slowly increased from zero, cell by cell, till the desired strength is reached, which is ascertained mostly by the sensation of the patient. The strength of the current allowable varies from 5 to 15 or even 20 milliampères, according to the seat of stricture, the nature of the neoplasm, the size of the electrode and the susceptibility of the patient; the rule always being not to use a strong current, if a weak one will accomplish the object. The séance may last from five to fifteen minutes. No force should be used, the electrode should be kept steadily against the stricture, and only guided; the electrolysis does the work of enlarging the calibre, and then the instrument passes the obstruction. At the end of the séance, the current is reduced slowly cell by cell to zero; and not until then is the electrode to be removed.

It will be perceived that the occasionally stronger current in this operation is the only difference from the treatment of urethral strictures. Séances may be repeated in one or two weeks. According to circumstances and complications of the disease some modifications of the treatment may be called for, one of which is the use of needles in the mass of the stricture, instead of the metal bulb, at the negative pole. My smaller electrodes are very flexible and long, the object being that undue force is impossible while being used. The instrument also will accommodate itself to the flexure and easily enter the colon; thereby increasing the field of observation.

Case 1.—Stricture of Rectum—Rectal Fistulæ—Failure by Gradual Dilatation—Success by Electrolysis.—March, 1871. Mary V., æt. 24 years, of a robust constitution and healthy appearance; had her first catamenia when 14 years old. Was regular until she became *enciente*, had a child five and a half years ago, when 18 years old. She believes she had a miscarriage, at eight or ten weeks, some time afterwards; then menstruated regularly until one and a half years ago. Without any appreciable cause had amenorrhœa eight months, then menstruated regularly twice, and again a second term of eight months the catamenia were absent. For this amenorrhœa she had no treatment. She complains now of constipation and pain in defecation, has a burning sensation in rectum, headaches and dyspeptic symptoms. The patient was reckless, addicted to intoxicating liquors, and led a very irregular life.

On examination a stricture in rectum is found 2½ inches above the anus. The point of the index finger cannot pass, but enters the stricture, is there arrested, and encounters a very hard, fibrous mass.

The tissues around are indurated, almost simulating the first stage of scirrhus. Dr. Erskine Mason examined the patient with me, and concurred in the diagnosis.

There is no doubt about the diagnosis; the only question is the cause of this trouble. The patient is candid about her history and previous life, hides nothing, and has no object to do otherwise. She positively denies having had syphilis, or any secondary manifestations; never had sexual connection in rectum. For the last six years or longer, I have seen this patient at various times, and any syphylitic appearances would not have escaped my notice. But I am positive that I treated her two years ago for chancroids and condylomata. I recollect that she was careless in attending to the dressing and cleanliness. And this is probably the cause of her stricture. Besides, I do not believe much in syphilitic strictures, except when inoculated by actual contact, and am supported in this opinion by such eminent authorities as Holmes, Coot, Lancereaux, and particularly Mr. Gosselin, who first pointed out the true pathology in "Des Rétrécissements Syphilitiques du Rectum," *Arch. Gén. de Méd.*, 5th Serie, p. 667.

The shortest and best description of this cause of such a stricture is given by Bumstead in his valuable work,[7] which I cannot resist the desire to quote here: "Chancroids situated near the margin of the anus may give rise to a form of stricture of the rectum, which has improperly been called syphilitic."

Treatment was commenced by gradual dilatation with rectal bougies. Not the slightest improvement was made with this procedure. The patient complained that the bougies gave too much pain, and hurt her so much that after the third time of their introduction, she refused the further continuance of this kind of treatment. She disappeared from my observation for some time, and after an elapse of six months, came back again in a deplorable condition.

October 1, 1871. Her health was now much impaired, and she suffered a great deal. The stricture would not admit of her having a regular passage from the bowels, which were always constipated, and admitted only once in a while a watery evacuation. She had pain in the gastric region, the abdomen was swollen, the intestines full of gas, and there were constant tenesmus and troublesome eructations. As soon as she had partaken of a meal, vomiting followed. She had excruciating pain in rectum and anus—in fact, almost everywhere, and was much reduced in flesh and very anæmic, presenting a picture of distress and agony.

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[7] Bumstead on Venereal Diseases, p. 363.

On examination, I found the rectal stricture worse and smaller than before. By forcibly pushing the finger, its point entered the stricture a little, and there was arrested. Five rectal fistulæ, with small openings in the gluteal muscles, wound their way in tortuous sinuses, burrowing through different tissues. Purulent and bloody discharges from these sinuses dribbled down her limbs, and sometimes, before breaking externally, became sacculated and increased the pain. The patient felt so miserable that she accepted any proposition of operative procedure.

October 3. Bowels were emptied by a purgative and injection. In the evening a dose of Magendie's solution was given.

October 4. The operation (by electrolysis) took place at my office. The patient was very weak, could scarcely walk, and came to my office in a street-car, assisted by a lady friend. She suffered much pain, and could not permit any manipulation, therefore ether was given her. First, the sphincter ani was stretched, then a leaden ball on the end of an electrode was introcuced to the seat of the stricture. Above the leaden ball the metal was insulated by a flexible rubber covering. The end of the wire was attached to the negative pole of a Stoehrer 16-cell battery. The circuit was completed by a sponge electrode as the positive pole, attached firmly on the gluteal muscles. All 16 cells were brought in operation for twelve minutes, after which the stricture was considerably dilated, and some of the fibrous mass absorbed. It was not expected that one séance should cure the stricture, and the intention was to repeat the electrolysis in about five or six weeks. However, the sequel will show that no opportunity was given for a second application, and nevertheless the stricture was cured. This proves that an absorption goes on for some time after the real active electrolysis has ceased. A dose of Magendie's solution was given subcutaneously, and the patient went home in a car.

October 5. She feels nauseated from the ether and has some pain. I order suppositories of belladonna.

October 7. Patient feels more cheerful and has no pain.

October 10. Walks about the house, feels pretty well, and has no pain, On digital examination the stricture has almost disappeared, and the rectum feels more normal than before. Nothing was done for the cure of the fistulæ.

From this time the patient felt so well that she refused any further treatment, and even an examination. I have seen her off and on. Sometimes she felt worse, but at other times enjoyed excellent health. The stricture did not trouble her any more, and even her bowels were pretty regular and normal. Then she disappeared from my observation altogether, and only by chance during the following year I came to her death-bed.

April 9, 1872. As I was passing a house on —— street, a lady called to me from a window and, telling me that my former patient was very ill in bed, asked me to come in. Since I last saw her she had become very dissipated, had recently been on a spree, been exposed to cold, and was at that time very weak and in bed with a high fever. I found her suffering from acute peritonitis; constant vomiting of greenish matter, watery discharges from the bowels; abdomen swollen and very tender to the touch; pain, restlessness, high pulse, fever, thirst and great anxiety were the symptoms. It was evident that she could not recover, and the next morning (April 10, 1872), she died.

Autopsy was made on the same day. Rigor mortis very marked. The whole abdominal cavity was filled with thick serum and lymph of a yellow color. All the viscera in the abdominal cavity were covered with a thin layer of freshly effused lymph—parietal peritoneum free. The disease was of so recent a date that no adhesions had formed. The posterior wall of the rectum was firmly adherent to the sacrum. There were condylomata in vagina and around anus and mucous patches in lower end of rectum. The rectum and intestines were free from hardened or accumulated fæces; no scybalæ were found.

Dr. Terry kindly assisted me at the post-mortem, and immediately after made a microscopical examination of the rectum. He reports that the microscope shows no heterologous tissue, and nothing strictly neoplastic.

The specimen was presented to the Pathological Society on the same evening, and showed that the stricture had not troubled the patient, that it had not grown worse since the operation, but, on the contrary, had improved.

The report of this case is complete, and shows the *perfect success of electrolysis*. It was a very bad case, the patient's loose habits and neglect counteracting all benefits of treatment. No fair play was given to the method, as after the first operation, any further necessary treatment was not permitted. The case was complicated by fistulæ. The patient died nearly seven months after the operation from acute peritonitis after a debauch, and not from the disease under consideration. The specimen showed under all these adverse circumstances a decided improvement, which cannot be called anything but a decided success.

Case 2.—Mrs. D., æt. 62 years, May, 1875, complains of a twisting and pain in rectum. Has headaches and habitual constipation.

Digital examination. After the finger has passed the sphincter ani, it enters a large cavity, which appears to be a cul-de-sac, without any opening, but on further exploration about 4 inches higher up, to the left, a stricture of the rectum is found. This continuation of the rectum is a closure—a sphincter-like constriction, which is so much contracted that the point of the forefinger cannot penetrate it. The cavity is filled with hardened fæces.

May 7 to 12. Four days were spent in the gradual removal of the fæces from the large cavity of the rectum by injections; and afterward by the use of a long flexible rectal tube, through which lubricating injections were pushed by hydraulic pressure.

May 13. Dr. Frank, of Pittsburg, examined the patient with me, and found the stricture just as firm as described above. Electrolysis was used. The positive sponge electrode was held in the palm by the patient. The negative pole was a bougie, on the end of which was a flat metal piece, a little smaller at the end, three-eighths of an inch in width, the middle part of the instrument measuring five-eighths of an inch.

This bougie was introduced into the rectum and pushed against the stricture. Then the galvanism was used for ten minutes, with ten cells of a new Chester battery. The metal of the bougie became engaged in the stricture, and gaining slowly, finally passed through it. After this electrolytic application, the stricture felt softer, the finger could enter it, and this part of the bowel could be pulled down.

May 21. There is a decided improvement. The stricture is softer and wider; the flexible rectal tube passes it, and is gradually forced up the colon till its point is eighteen inches up from the anus. While it is gradually pushed upwards, the lubricating injections are continued to remove the impacted, hardened fæces.

May 23. The fæces appear to be all removed, the bowels move now, although not quite regular.

May 28. Electrolysis was repeated in the same manner as that of last week; the same instrument passed the stricture, then was detached from the battery and left inside, and above the stricture in the rectum.

Then the same operation was repeated with a round bulb five-eighths inch in diameter, which also passed the stricture; next, the first metal was withdrawn and brought alongside of the second. The diameter of both together was now one inch.

This dilated the stricture a great deal, and to a larger size than a large bougie would have done. To-day she had no pain, no anxiety, and was cheerful.

June 4. Electrolysis as before. Negative, a large metal bougie three-fourths inch in diameter. As soon as the instrument was withdrawn the stricture felt as if contracted in folds, exactly like the sphincter ani.

June 15. Electrolysis with bougie one inch in diameter; it passed the stricture in its whole length. Nine cells were used for twelve minutes. The application did good, and the patient remarked that it imparted a welcome warmth to the whole alimentary canal, and even to the abdomen, where formerly she always complained of a chilly sensation.

June 25. Galvanic application. The bougie went into rectum easily ten inches up.

No other cause for this stricture could be found than the atony of old age in consequence of constipation, and impacted fæces, which made below a pouch, and by constantly pulling downwards elongated, and lastly paralyzed some fibres. Above this atonic part the contraction acted stronger and stronger, overpowering the parts below; spasmodic action followed, the mucous membrane became divided in folds, which again contracted until a firm stricture, almost a closure, was created.

Case 3.—Mrs. P., æt. 30 years, married, has a stricture of the rectum of five years' standing; was sent to me by Dr. Bosworth, who had given this case a great deal of attention, and had relieved and benefited the patient much. The treatment consisted of a gradual dilatation, forcible dilatation, division of the stricture by the knife, constitutional remedies, all according to the most approved methods of the best authorities and with the same result: the patient was relieved for the time, but soon the stricture contracted again.

The patient's history is syphilis, uterine disease, pelvic cellulitis, in consequence of which the uterus is retroflexed with fixed posterior adhesions, which also have caused a periproctitis, and leave large indurated masses in the areolar tissues in and around rectum, and in recto-vaginal septum. And now, in addition to all these troubles, which have undermined her constitution, comes the stricture for consideration. It is near and above the anus, one and a half inches high, is equally divided around the rectum in a circular manner, involving all parts of the wall alike; is very fibrous, and extends in length about one and a half to two inches. There is considerable hardness and induration, and the tip of the finger cannot pass through the stricture.

May 13, 1876. Mild application of electrolysis by galvanic battery (Chester), ten cells for ten minutes. As negative pole in rectum there was used a vaginal metal electrode two and a quarter inches in circumference, which finally passed the stricture.

May 19. Electrolysis; positive sponge in hand; negative pole in rectum was a rectal tube, conical, silver-plated metal.

Fourteen weak cells were used for twenty minutes. The negative pole advanced very gradually, and at last passed through stricture to a point measuring three inches in circumference and three-quarters of an inch in diameter. Most of the hard fibrous mass had disappeared, when digital examination was made. The annular edges of the stricture could still be felt, but it was smaller, soft, dilatable, yielding in great contrast to the former, hard, unyielding, brittle, fibrous tissue. This séance had done a great deal of good, had absorbed much of the fibrous tissue, to overcome which is the most important part in this case.

June 2. The hard, fibrous tissue is still there, and obstructs the action of the peristaltic motion. Electrolysis as on former occasion, twenty cells, weak solution, for fifteen minutes. The largest rectal bougie passed through stricture in its full length.

June 9. Electrolysis, with twenty-five cells for fifteen minutes, may appear a strong current, for an electrolytic action, when I generally advocate mild currents. However, it acted mildly in our case, and as an explanation, the following is offered: The cells of the battery were small, not filled entirely, and the fluid was very weak from long use. *Milliampère meters* were not in existence at that time, which explains, that the current-strength is not stated. The rectal bougie used has a large surface by which the force of the current was broken and divided over all parts in contact alike, whereas in other bougies used for strictures the power is concentrated at one point, working against and on one unyielding structure of the part. Now we had not a distinct stricture, not a round annular formation of membrane or ring, but indurated isles in portions of rectum.

June 16. Electrolysis; twenty cells for twenty minutes. The current was not strong and did not hurt; softening of fibrous mass was very limited.

July 28. The fibrous mass is extending all around and high up in rectum; by digital touch it feels suspicious. Progress is not as good as desired, but nevertheless the hard mass has softened and diminished. Another method is now used, viz.: By needles as negative pole, as in the absorption of tumors. One platinum needle is guided by the finger, and pushed into a fibrous band or in a mass of hardened tissue. In one instant the needle is pushed deep into the fibrous band forming the stricture, the circuit is closed by the positive sponge in the hand of the patient. The electrolysis works the needle out towards the rectal cavity by slowly dividing the real mass of the stricture. An advance for the better has been made; patient feels very well: the whole constitution is improved, but the hard mass is large, and high up in the rectum, which needs many applications, as in scirrhus.

August 18. Patient reports much improved, and is better in every way. The rectum has lost the feeling of fibrous bands and hardened tissue; the large bougie enters easily its full length and size.

January 27. Patient reports after an absence of five months, during which time she has not had any treatment. Some indurations, the remains of her pelvic cellulitis, are still present, but the real stricture is cured. Her general health is improved, and she enjoys life now. The patient has been heard from for years afterwards; during which time she has remained well. At the present time, May, 1889, she could not be found.

Case 4. (*No. 2478*).—Mrs. Marg. O., æt. 38 years; widow, was married seventeen years ago, had six children; had been suffering with constipation and hæmorrhoids. Was operated upon by Dr. Swinburne, in Albany. At present complains of pain at defecation, never has a normal stool, always has discharge from anus of matter, pus and sometimes blood.

July 28, 1880. On examination found a stricture two and one-half inches from anus, not very hard, excluding by the touch scirrhus, the stricture was not equally round but irregular in formation, the little finger could engage in it, but would not pass through it.

July 31. Electrolysis. A sponge electrode as the positive pole was held *against the abdomen*; a firm electrode with a round metal ball two inches in circumference, connected with the negative pole of a galvanic battery, and introduced into the rectum, pressing against the stricture; a current of ten cells was used for fifteen minutes, which enlarged the stricture to such an extent, that the electrode and index finger together passed the stricture.

August 7. Electrolysis was repeated, the negative electrode, a vaginal bulb, was used, which did good service in absorbing the indurated masses in rectum. After ten minutes the electrode had advanced six inches in rectum.

August 18. Patient is now much improved, stools are better, and at times almost normal. The stricture is wider, and the walls of rectum are less indurated. Ordered a tonic.

August 25. Electrolysis as before, the stricture thereby was enlarged to three inches circumference.

September 15. Is improved. Different sizes of rectal bougies passed all alike, seven inches from the anus up the rectum.

September 21. Electrolysis as before, with a weak current for six minutes, which further enlarged the stricture. Discharge of pus, serum and blood was still present.

September 24. Electrolysis with negative electrode three and one-fourth inches in circumference. There were indurated masses in rectum, hard all around, and extending above stricture.

October 17. Is much improved, in fact, patient considers herself well, having no pains, and bowels acting normally and regularly. Electrolysis with a negative bulb of four inches circumference, passed well through stricture.

October 28. More improved. Large vaginal bulb, four inches circumference, passed easily up the rectum, the walls of the rectum appear normal, all hardness has disappeared.

November. Patient reports well, and is going back to Albany.

Case 5. (No. 2545).—Four rectal strictures, Recto-vaginal fistula, Syphilis.—Mrs. M. A. C., æt. 36 years, been married eighteen years, has had four children, the youngest is 4 years of age. She had one miscarriage before first child was born. Menstruation has been regular until last month, when owing to the patient's illness it did not appear.

History.—First symptoms of present trouble was noticed five years ago. Previous to that time, bowels were usually regular. Patient states that at first there was a bearing down pain, with a desire to go to stool without being able to accomplish anything. This gradually increased until it would sometimes be three weeks before she had a natural passage. The trouble was first attributed to hæmorrhoids. About this time patient was examined by Dr. Lockwood, who discovered the stricture, and operated twice by dilatation with rectal bougies.

The patient states that the last operation was painful, therefore she did not return for treatment. The dilatation afforded temporary relief.

During the long interval that followed the history is imperfect. There is evidence that no improvement took place. Patient says that her bowels were very irregular, constipation followed by diarrhœa. Health failed. July, 1882, she again applied to Dr. Lockwood. The patient has been sick in bed for some time, emaciated and too weak to stand up. The stricture is so small, that no bougie will pass, and her passages are imperfect. Dr. Lockwood used dilatation with small rectal bougies, which benefited considerably, so that her fæces assumed again a shape, even if it was only as thin as a small little finger. The rectal bougie would not pass farther on, than near six inches from anus.

August 23, 1882. My friend Dr. Lockwood requested me to see his patient in consultation, with the intention of applying electrolysis. Upon inspection a large rounded tumor was seen situated at the verge, and external to the anus. It was soft, irreducible, but not painful to the touch.

The situation and size interfered with the internal examination, but as it caused no inconvenience to the parts it was allowed to remain. Digital examination of the rectum caused excruciating pain. Two inches from the anus the first stricture was found, which was a firm annular ring, in which the tip of the finger engaged, but could not pass through. From the anus and near the stricture on the anterior wall of the rectum are indurated isles painful on pressure.

Examination with rectal speculum revealed several herds of deep ulcerations, which were very painful. A bloody discharge mixed with pus oozes from the parts. In consequence of the long existence of the stricture, and the induration of the tissues resulting from it, there is a recto-vaginal fistula through which fæcal matter is often carried into the vagina. A small rectal bougie passes through the stricture and its conical end, dilates it to a limited extent, but is arrested in its progress by another stricture at three inches from the anus. There were altogether four strictures as follows:

First stricture at 2 inches from the anus; 2d at 3; 3d at 5¼; 4th from 10 to 11.

A solution of nitrate of silver was applied to the ulcers in rectum with marked benefit in stopping the hæmorrhage, and leaving the ulcers in a healthier condition. The general health of patient is bad, she is emaciated and weak from the constant irritation and pain caused by her disease.

August 28. The ulcerations look better; patient is too sensitive to be examined. The ulcerations were slightly touched with the solution of nitrate of silver. Rectal suppositories were ordered to relieve the pain. A tonic containing cinchona was also ordered.

September 1. Electrolysis was applied with the assistance of Dr. G. W. King. The patient was more comfortable, and her general appearance somewhat improved since last visit.

The parts about the anus were unchanged with the exception that the ulcers looked healthier and did not bleed so freely. Dr. King made a digital examination, and confirmed the diagnosis of a very tough, hard stricture, through which the tip of the finger could not be pushed.

Electrolysis was applied, the negative electrode introduced in the rectum had a metal bulb two and one-eighth inches in circumference; the circuit was closed by a positive pole as a sponge electrode held against the abdominal wall. Six cells of a galvanic battery (Drescher), was used, the current did not cause the slightest pain. Its action upon the stricture was prompt, no force was used, the instrument passed easily through the first stricture. It was left in position about twenty minutes, then gradually withdrawn for the current to come in contact with, allowing the time for the whole extent of indurated tissue.

The nitrate of silver solution was applied to the ulcerations.

September 3. The patient feels better to-day; gave injection of castile soap and warm water with fountain syringe. A large quantity of fæcal matter was passed causing considerable pain. Daily injections of warm water were ordered, at bed time an enema of olive oil to lubricate the parts.

September 6. Patient states that she had some hæmorrhage from the bowel after the injection. The ulcerations are healed, there is no discharge from the anus, the parts are less sensitive. A negative electrode was passed, and mild current, six cells being used. The instrument passed the first stricture and engaged in the second when it was firmly held.

This bougie was changed for one with smaller tip, and the current kept in contact with the stricture for some time, but slow progress was made. The whole operation lasted half an hour, no pain was felt from the current. The electrode passed up to five inches through two strictures, but no instrument would advance any farther.

September 8. A flexible electrode, No. 26, French, egg-shaped, short metallic bulb, as negative pole was introduced in the rectum, the positive sponge electrode held on the abdominal wall, with a current of seven cells. The electrode passed slowly in rectum up its whole length twelve and one-half inches, and encountered several strictures, particularly from ten to eleven inches. The ulcerations within the sphincter ani and above have healed and look healthy. The lower part of rectum is improved, but the indurations have not entirely disappeared. Patient looks improved, her countenance is more cheerful, she has not had any pain, the fæcal matter passes now in a more compact form, and of larger size. To-day no blood passed, not even a coloring.

September 12. Patient is remarkably improved in every way. Her face has filled up in flesh, she has better color, looks cheerful. She has had no pain, her bowels are more regular, and fæces have improved in form and compactness. The lower part of rectum from anus to five inches up, appears healthy, no pus nor hæmorrhage, ulcerations have healed, but there are still some indurations left. The first two strictures are enlarged, but besides the No. 26 French no instrument will pass up farther than six inches. Electrolysis was applied again when electrode No. 26 French passed up its whole length twelve and one-half inches.

September 15. Patient is much improved, has been out of bed a whole day and walked about the room. Bowels are in a better condition, in fact, move almost normally. No pain. All instruments are arrested at five inches, but flexible bougie, No. 26, French size, passed again up to twelve and one-half inches. Next two bougies were inserted at once, in the following manner: Flexible No. 26, French, ahead, and a second instrument of the size No. 30, French, behind, so that the larger egg-shaped bulb was behind and in close proximity, almost as a continuity of the smaller bulb, No. 26. Electrolysis was then applied, and after twenty minutes the smaller instrument slipped through the stricture, followed immediately by the larger one. Then the smaller was left *in situ* while the larger No. 30, advanced, and passed up its whole length, thirteen inches through all strictures. The instrument could be felt distinctly through the parietal walls of the abdomen, and traced in its whole length up the descending colon. On withdrawal of No. 30, it was brought alongside of No. 26, and in this united form passed through the strictures. The whole séance lasted thirty minutes, without hurting the patient, or causing any hæmorrhage.

September 26. Rectal bougie, flexible, bulb, one and one-fourth inches in circumference, passed through all strictures thirteen inches up where it was left, while a second instrument two inches in circumference was introduced with electrolysis of eight cells, and also passed all strictures up to twelve and one-half inches. Patient felt both instruments distinctly in her bowel, and commented on the difference of the sensation, comparing it with the former introduction.

On September 15, the passage of the bougie, No. 26, through the upper stricture was painful like a ball of fire, which burned through the small aperture, and then fell into a large cavity. However, to-day both bulbs slipped through easily without any pain or soreness. Galvanism was given to the lower part of the rectum with a vaginal electrode two and one-fourth inches in circumference and three inches long for ten minutes. There are scarcely any indurations left, the rectum feels almost healthy, no pain; bowels are almost normal, general health is improving constantly.

October 3. Electrolysis in the usual manner, negative bulb in rectum, with a current of seven cells for fifteen minutes.

October 7. Solution of nitrate of silver applied to ulcer in rectum.

October 14. Stricture is still hard to the touch. Electrolysis repeated with metal bulb, particularly to five inches from anus, with a weak current of five cells for twenty minutes. Patient was sensitive to the current, otherwise is constantly improving, is gaining flesh, and walks about the room almost the whole day.

October 18. Electrolysis with two flexible bougies, metal ball at the end, both instruments passed upwards thirteen inches without any difficulty. In returning the instrument downward, the electrolysis did good service, and the absorption could be felt by transmission to the fingers and the ease with which the instruments passed.

Dr. Lockwood was present and prescribed iron and quinine.

November 8. The intermission has done harm, there is more hardness in rectum like a relapse. It seems the intermission since last application of electrolysis has been too long.

November 14. Electrolysis with metal bulb as negative in rectum particularly to stricture at 5 inches, current of 8 cells for 12 minutes. Dr. Lockwood was present, after the séance examined the patient and found marked improvement.

November 18. Electrolysis with large bulb, which passed upwards in colon its whole length, 13 inches. After the current had been applied for 25 minutes, the electrode moved about with the greatest ease. The fistula has taken care of itself and is now healed up entirely. Strictures and indurated walls of rectum have improved remarkably. Bowels move now regularly every day. Ordered bichloride in small doses, as it is certain that she had contracted syphilis from her husband.

November 24. More marked improvement. Bougie passes easily without any difficulty. Digital examination does not hurt, the hardness has almost disappeared. Patient is in good condition. Dr. Lockwood present.

December 19. Patient came to my office much improved. Electrolysis, metallic bulb 3 inches in circumference as negative passed easily through all strictures, 10 cells for 25 minutes.

A prolonged illness held me in bed, and after recovery could not find the patient. I never could get any reliable information about her, and therefore cannot say she was cured; but she certainly was much improved when seen last. Dr. Lockwood coincides with the above, and has no trace of his former patient.

Case 6 (No. 2567)—Three Strictures—Improvement.—1882. Mrs. S. S., æt, 35 years, married 16 years, had four children, the last four years ago. Twelve years ago was so constipated, that sometimes her bowels moved only once in eight or nine days, there was very troublesome meteorism with pain. Ten years ago was treated by an excellent surgeon for stricture of the rectum by dilatation, with only temporary benefit. Next was operated on with the knife at the German Hospital. The stricture closed up again so that a second operation was performed five years ago at the St. Francis Hospital. For the last five years has taken only medicines, mostly large doses of cathartics, but her constipation remained and she got constantly worse. At present she can scarcely pass anything per rectum; any fæces which are evacuated are thin and flat ribbon like, but as a rule only watery diarrhœal discharges run involuntarily which were mixed with blood and pus. She is in constant pain.

December 13, 1882. Examination: Found a tight stricture by digital examination 1⅜ inches from anus, which would permit the passage of a bougie equal to a No. 17 French urethral sound. No larger instrument could pass the stricture. Two more strictures above the first were found, so that we have three strictures as follows: 1st. Stricture at 1⅜ inches from anus; 2nd. Stricture at 3 inches from anus; 3rd. Stricture at 5 inches from anus. Electrolysis was applied at once, with a bougie, having an acorn-shaped metallic bulb, equal to a No. 26 French urethral sound as the negative pole. This was introduced in rectum and held against the stricture, while the circuit was closed by the sponge electrode of the positive pole being held against the abdominal wall. A current from 6 cells absorbed in 20 minutes so much of the strictured tissue, that the bougie passed easily and also evidenced the other two strictures. Immediately a second electrode was introduced, size No. 28, French egg-shaped bulb, and this also passed all three strictures with a weak current. The stricture is very hard, unyielding, consisting of contracted cicatricial tissue, formed after the cutting operation. Tonic cathartic pills were ordered.

December 15. Electrolysis, negative metallic round ball 1¼ inches in circumference, 5 cells current for 20 minutes. At first no progress was made, but gradually absorption of the hardened mass took place, and then the bulb slipped through the stricture, and with more ease through the other two strictures.

December 19. Electrolysis, negative metal bulb 1½ inches in circumference for 25 minutes with a current of 7 cells. The cicatrix left from the former cutting is so hard, almost calcareous, that the task is very difficult to enlarge the calibre. The electrolytic power concentrated on the cicatrix absorbed slowly, and when the bulb had passed the stricture, the instrument could be moved about with ease. The second and third strictures are not so firm and yield easier to treatment, while the first stricture is not confined to a more contracted ring but has hard fibrous masses in the rectal wall extending to some distance around and above. The patient is much better, and has already regular evacuations of the bowels every day, the fæces being almost normal, have a conformity with the stricture.

December 23. Electrolysis. A bivalve speculum was used as the negative pole; 9 cells for 12 minutes enlarged the stricture to 2 inches circumference.

December 27. Electrolysis with a flat metal bulb as negative; a current of 10 cells for 20 minutes did better than at any previous séance, and absorbed much of the indurated tissue. After the séance the stricture was softer, there was less pain, and the last joint of the forefinger could be pushed through the stricture.

December 29. Electrolysis. Metal flat electrode, 9 cells for 20 minutes, caused more absorption, produced less irritation, no pain, no discharge and no bleeding.

January 12, 1883. Electrolysis caused more absorption without gaining on the calibre of the stricture.

January 24. Electrolysis under an anæsthetic. Dr. Meier administered ether. Positive large sponge electrode was held on abdomen, as negative a large platinum needle, spear-shaped at the end, was pierced in the lower margin of the annular ring of the stricture. A strong current of 20 cells was used, and the needle held in the direction, that it absorbed the tissue from the inside towards the free passage of rectum, thereby dividing that part of the stricture by electrolysis. Then electrolysis was applied with a metal bulb electrode 2⅛ inches in circumference, which passed easily through the strictures; after which a large metal bulb 3 inches in circumference could be introduced and passed up its whole length. The stricture is about one inch in length. The operation was done at my office, after which the patient went home, a distance of about three miles.

January 26. The patient is in good spirits, has not suffered any pain; uses rectal bougie. On digital examination found no stricture, the surrounding tissues softer, and the finger passed through a spacious calibre, without causing any pain. No anodyne has been taken.

January 29. Patient is doing very well. Wednesday she was operated on, Saturday she was dressed and walked about the room, and on Monday did the washing for the whole family of six persons, at the same time having a bougie in rectum for over an hour.

February 12. Electrolysis with metal bulb 3 inches in circumference, with a current of 10 cells *for 20 minutes. No pain.*

March 5. Endoscopic examination of rectum, some ulcerated spots were touched with iodoform. Ordered rectal suppositories.

March 8. Endoscope. Iodoform has done very well, rectum appears nearly healthy, there is scarcely any discharge. Bowels are almost normal. Ordered mist. biniodidi.

March 26. Electrolysis, with a metal bulb 3 inches in circumference.

March 28. Patient is improved in every way. Sphincter begins to be restored to an independent action. Endoscope shows healthy mucous lining and no ulceration, digital touch finds mucous membrane soft and normal General health is much improved. Bowels are regular.

August, an ulceration was found in rectum and treated per endoscope.

July 23, 1884. Nearly one year has elapsed, in which patient has not come for treatment. On examination a tight stricture is found in the upper part of the sphincter. Electrolysis for 10 minutes did some good.

July 30. Electrolysis repeated.

August, 1884. The case at present is unsatisfactory. While a year ago the improvement was steady and promised to result in a brilliant success; to-day a relapse has taken place. The tight stricture is found in a different situation, but nevertheless we have a stricture in which parts of the rectum are involved. Patient is in indigent circumstances, has to bring up four children, and has neither time nor room nor means to take care of herself. Therefore the question comes up if it would be better to have an operation performed in an hospital. Dr. J. D. Bryant kindly offered to take the patient in his ward of Bellevue Hospital. He proposed to operate by exsection of the stricture, then pulling down the healthy rectal tissue and stitching it to the lower part of the anus. This plan could not be carried out, because it was found at the operation that the thickened tissue of the stricture extended too high up; therefore the stricture was divided by the knife and excised as much as possible. The operation was performed in a masterly manner and has benefited the patient very much. Patient had to use a rectal bougie off and on, and thereby kept good health since the operation. I have seen her four years after the operation, she using still the rectal bougie faithfully. Later I heard from her husband that a relapse took place, complicated with a tumor, and that finally she died in October, 1888.

Case 7 (No. 2569). Mrs. R. B. A., æt. 43 years—married—sterile—normal menstruation, habitually costive, which is common in the family. Six years ago had prolapsus uteri. Three and a half years ago had membranous enteritis; after which the costiveness has been alternating with diarrhœal discharges. Has a steady pain, the seat of which corresponds with the junction of the transverse and the ascending colon. Sometime ago had muco-purulent and bloody discharges from bowels, which, however, have ceased of late. Always was inclined to be costive and suffers from dyspepsia, has flatus, bad taste with acidity; particularly in the morning. Gastralgia—without using an enema can not have a passage from the bowels.

December 25, 1882. Examination: Uterus is small flabby, body retroflexed and pressed against rectum. Rectal tube passes only up to 5 inches, where it is arrested. A small rectal bulb passes, but encounters strictures as follows: 1st. Stricture 5 to 6 inches from anus, followed by hard indurations; 2nd. Stricture at 10 inches, is in colon.

Electrolysis.—Positive sponge electrode in hand, negative metal round bulb electrode was introduced in rectum, and met the same obstruction as before. A current of 10 cells was used for 15 minutes. The bulb was held against the stricture and soon widened the calibre, so that another electrode could be used, which passed upwards 13 inches, through all strictures. On withdrawal of the bulb, which was 2 inches in circumference, did more good work by absorption and came out very easily. Ordered enemata to be taken systematically and regular; galvanic external applications. The positive sponge in epigastrium, the negative sponge electrode to be moved slowly in the direction of the peristaltic action. Tonic cathartic pills, diet and Leube's beef solution, etc.

December 27. Electrolysis as before. Electrode passed easier, found the strictured parts less contracted, also less pain in colon. Current of 10 cells was used for 15 minutes. Electrode passed upwards 13 inches. Electrode was 2½ inches in circumference.

December 29. Electrolysis with a current of 8 cells for 10 minutes. Negative electrode 3 inches in circumference passed easily.

January 2, 1883. Patient is improved in every way, and has good movements of the bowels, Electrolysis, flexible round electrode as negative passed easily up to 13 inches; then a long round bulb 4 inches in circumference passed the stricture easily. Patient felt so well that she went home. Have heard from the patient later several times, that she has further improved, and remains well. The last time I heard from her was four years after the treatment.

Case 8 (*No. 2848*).—*Improvement.*—G. E. W., æt. 23 years, medical student. September 8, 1886, presented himself at my office saying he had a stricture of the rectum, which formed one year ago, after a severe attack of dysentery. He had seen many prominent professors, a cutting operation had been performed, and he is not better. A full history of the case will be given below in the patient's own words, as given in a letter sent to me by him for the purpose of adding to the notes of the case.

On examination the stricture was found to be 3½ inches up from the anus, the index finger just reaching the beginning of the stricture, which is annular, defined just like a new formation in a large cavity of the rectum; the walls very indurated, not yielding nor stretching. On further exploration with a bougie, the stricture is found to be one inch long and seems healthy above. Small papillæ on the under surface of the stricture can be felt distinctly

Electrolysis was applied, with a very weak current, for 5 minutes. Positive sponge electrode was applied over sacral region; the negative direct to the stricture was a flat metal, one inch long.

September 19. Electrolysis was repeated in the same manner as before for 12 minutes; the negative bulb was 1 inch long and 1½ inches in circumference.

September 26. Electrolysis. Negative pole had at its end a round metal bulb, 2 inches in circumference, which passed the stricture easily; 8 cells current was used for 15 minutes. The bulb around which the electricity is working was 1½ inches long, the other part of the electrode being insulated. The current was weak, did not hurt, there was only a warm sensation in rectum, a little stronger than at the positive pole. Patient had no inconvenience during or after the operation.

October 3. Electrolysis. Negative pole larger than used before, was a round metal ball 2¼ inches in circumference and ½ inch long, was held in stricture for 14 minutes. Very little improvement, papillomas are growing larger.

October 8. Electrolysis. As negative a large round metal bulb 3½ inches in circumference passed all inside and up the stricture; current of 10 cells for 16 minutes. There is an improvement. Drs. Kelsey and Sands individually examined the patient and also pronounced an improvement.

October 15. Electrolysis, in the same way as last time; the electrode passed easily through, and three inches above the stricture. Current was stronger, full power of 12 cells. The stricture is unquestionably better, but the papillomatous growth has increased.

October 22. Electrolysis. The electrode passes still easier but papilloma is worse.

October 29. Electrolysis as before for 15 minutes with a strong current.

November 7, 14, and 22. Three applications of electrolysis. In the last two applications as a negative pole a metallic dilator was used, with two blades, which were extended by degrees to 4¼ circumference. The current was 5 milliampères for 12 minutes.

November 30. The twelfth application of electrolysis was given; there is now a decided improvement; stricture is softer, more dilatable, while the margins are distinct, with indurated tissues surrounding it.

December 22. Electrolysis, as a negative a new electrode dilator was used, which had been made for the case, it was extended to 5 inches in circumference, current of 14 cells for 14 minutes, measured 6½ milliampères.

January 9, 1887. Electrolysis with the new dilator electrode extended to 4½ inches. Stricture is much improved, but the growth appears to increase.

January 16. Electrolysis repeated as before, but circuit of electricity applied with a larger resistance, positive electrode held in hand, new dilator as negative in rectum was an improvement. 7 milliampères for 15 minutes.

From January 24 till March 9. Six more séances were held in the same manner as before. There certainly was improvement of the strictures, it was softer in every respect, the indurations were softer, and an instrument of 4½ inches circumference could pass the stricture and while *in situ* could be expanded to 5 inches. Patient could not stay longer in New York and went south to his home, promising to return soon for further treatment. However, for some reasons he never came back. He has written several times informing me of the state of his health. His last letter will explain best the history of the case, and I copy it here verbatim in his own language, as also several other letters about the case.

April 10, 1889.

Dr. Robert Newman.

My Dear Doctor:—I will recite for you with pleasure, as nearly as I can now recall them, the principal points in the history of my case. I am 25 years old and my family history is good in every respect, my father being a German and my mother an American woman. My own health has in the main always been good. I have suffered ill-health at times from rather severe attacks of intermittent fever, and went through the usual diseases of childhood. Have also suffered much, from 1882 to 1885, from nervous exhaustion, cerebral hyperæmia and well defined symptoms of lithæmia, none of which were treated properly until lately. I have never had any venereal disease, and beyond suffering much at different times from constipation, I have never had cause to suspect that my rectum was not in a thoroughly healthy condition.

On September 14, 1885, I arrived in New York with the intention of taking the winter course of lectures at the University Medical College. Just after my arrival in the city I had an attack of dysenteric diarrhœa to commence. No especial cause was assigned for the trouble by either Drs. Weisse or Thomson (both of whom prescribed for me at different times), and it was evidently not considered of a serious nature, as I was able to attend lectures about half of the time during the two months I remained in the city. For two or three days immediately preceding my arrival in New York I had rather overtaxed my physical powers in sight-seeing in Washington, and just before my arrival in the city I ate two oranges which were rather old and unsound. An hour afterwards, having reached the college building and started out to look for a boarding-house, feeling much exhausted I dropped into a First avenue bar and took a glass of beer, which proved not to be good, and an hour afterwards I had to look for a water-closet. At no time was blood noticed in the passages, and at the commencement of the attack there was not much tenesmus, but some pain in the perinæum (which I had noticed a day or two just before arriving in New York, and was attributed to the much walking I had done in Washington).

About November 1 I was attacked with articular rheumatism, and left for home a few days afterwards. The trip home aggravated both the diarrhœa and the rheumatism, and for some days after my arrival home the rectum was so inflamed and sensitive that a cocoa-butter suppository with opium could not be retained. The salicylate treatment was used for the rheumatism and the subnitrate of bismuth and pepsin discarded, and opium in one form or another used instead for the diarrhœa. I recovered from the rheumatism after the usual six weeks, and the diarrhœa (or dysentery?) was controlled soon afterwards.

While my dysentery was worst my physician here endeavored to make an examination of the rectum by introducing a duck bill speculum, and although nothing was discovered at this examination it is entirely probable that this lack of discovery was owing to the examination having been unskillfully made, as after straining much at stool two hours after the examination I removed with my fingers, from within the grasp of the sphincter ani, an annular pendulous growth as large as an ordinary lead pencil. It was about 1½ inches long, hollow (or annular), and appeared *more like the pedicle of a villous tumor than anything* else; no trace of a tumor was visible, however. No microscopical examination was made of this growth.

Soon after the dysentery was checked I began to suffer with symptoms of stricture of the rectum, and in the latter part of March, 1886, I started north to consult experienced surgeons.

Early in April I was examined in Washington, D. C., by Dr. J. Ford Thompson, and he found a very close stricture commencing about 3½ inches from the anus. The stricture was so tight at this time that he could not penetrate it with his smallest bougie. Dr. A. F. A. King was present one time at Dr. Thompson's office and examined me, and although he evaded giving a positive answer I fully understood that he agreed with Dr. Thompson in his diagnosis, viz: that if the stricture were not already of a cancerous nature, it would become so very soon. This opinion Dr. Thompson declared to me and to my brother on several different occasions. Dr. Thompson sent me to Dr. Sands for examination. You will find Dr. Sands' opinion fully expressed in a copy of the letter enclosed, written to my preceptor (from whom I took a letter of introduction). This same exuberant growth removed from the lower margin of the stricture by Dr. Sands forms the foundation for all of the examinations made by the microscopists (that of Dr. Edward Schaeffer was given in writing, and is enclosed). I was examined next by Dr. L. A. Stimson, and he said at once "the growth does not feel like a cancer," but he declined to commit himself in a diagnosis until he had had the opportunity to dilate the stricture and explore it thoroughly. I consented to the examination under ether, and at my request Dr. Chas. B. Kelsey was present at the examination in the Presbyterian Hospital, May 18. In attempting to dilate the stricture it was torn, and linear rectotomy was performed at once. Dr. Stimson's opportunity for examining the stricture thoroughly was better than that of the others, who did not ask for an examination under ether. He said the stricture involved about 1½ inches of the bowel and was papillomatous in nature. Dr. Kelsey agreed with Prof. Stimson's diagnosis, and based his own on the microscopical opinion given him by Prof. Stimson.

I was very sick after the operation of rectotomy, caused, I have always thought, by having Fowler's solution of arsenic suddenly discontinued, which I had taken for some time immediately preceding the operation, in large doses, according to the direction of Dr. Sands. I was removed from the hospital to my brother's in Washington, D. C., and after three weeks was able to be out, and Dr. Thompson commenced to dilate the stricture with bougie.

July 4 I was examined by Prof. J. McLane Tiffany, of Baltimore, who made both a digital and microscopical examination, and he said, whereas he did not regard the stricture as cancerous at the time he examined me, that he thought it would undoubtedly become so in time, as my case had started in just the way most of the cancers of the rectum commence.

On July 5 I was examined by Dr. D. Hayes Agnew, who pronounced the stricture cancerous just as soon as he had made the digital examination, and he confirmed his diagnosis with the microscope, declaring it cylindrical epithelioma (agreeing very nearly, you see, with Dr. Sands' diagnosis).

I was examined by Dr. Edward L. Keyes soon after I first met you in September, and he said he would pronounce the stricture benign, unless the microscope declared otherwise. He saw no objection to trying electricity, but could not recommend it as being likely to benefit me any. The microscopic specimens prepared by Dr. Edward M. Schaeffer from the exuberant growth removed by Dr. Sands were examined by Drs. Biggs, Geo. L. Peabody and Prudden (of P. & S.), and they all declared the growth benign, but Dr. Prudden added that it would in all probability become malignant in time, thus agreeing nearly with Dr. Schaeffer's examination, as you will notice.

Now all these diagnoses were made up entirely from the case, as no two men whom I consulted knew anything of the opinion given by any other man in the case (excepting Drs. Kelsey and Stimson) until his own opinion had been given.

I hope you remember the very favorable impression my improvement caused Dr. J. Ford Thompson to form of the electrolytic treatment. When he examined me in March of 1887 he said, "You are a great deal better than when I saw you last, and your improvement can be due to nothing else you have tried save the electricity." "You have indeed been very lucky in trying it," he added.

I hope you will be able to find in my letter about what you wish, but if not do not hesitate to command any other information of me which I may be able to give you. I am only sorry I could not have remained in New York, and have been continuously under your treatment, when by now I would have been either entirely well or so much improved that even Dr. Keyes himself would have to admit that it had accomplished what he had several times declared it would not accomplish.

Dr. Kelsey, who was, at the time of my leaving New York, sanguine over the prospects of having found a new remedy in electricity for stricture, told my preceptor shortly after he called on you in New York last winter that he had since given electricity a thorough trial and that it was an entire failure. Dr. Wm. H. Thomson advised me once to continue the current, as the principle was a correct one. No change in stricture since last writing.

Hoping this will find you enjoying the very best of health and prosperity, I am, Very truly yours,

G. E. W.

COPY OF DR. EDW. M. SCHAEFFER'S REPORT.

Washington, D. C., June 26, 1886.

Microscopical examination of piece of growth from rectum. Left by Mr. G. E. W., pr. Dr. J. E. T. The sections were cut in the microtome and afterward stained with carmine and mounted in balsam.

The sections of largest diameter exhibit a rounded outline, approximating an oval, with a deep cleft extending to the centre, on one side.

Under the lens the following points are noticed:

1. The entire circumference, including the cleft mentioned, is lined with mucous membrane, showing the simple glands in their normal position, though somewhat hypertrophied in places.

2. Immediately below the simple follicles is seen the minute muscalavis submucosa, thick and well-marked in some places, irregular or wanting in others.

3. Several slightly enlarged "solitary glands" are seen, partly above oval, partly below the mus. submucosa.

4. The centre of the section is occupied by a connective tissue stroma, containing sinus of veins, tortuous arteries and lymphatics, the coats of all these vessels being in some places thickened and their neighborhood marked by a small-celled "exudation brood."

5. In no places throughout the twelve different slides studied is there to be seen any resemblance to scirrhus or alveolar cancer, or to epithelioma, or other malignant or semi-malignant growth. The growth then, so much of it as is included in these sections, is a nodule formed by a swelling of the submucous tissue, which is hypertropied, and upon which the glandular layer and epithelial coating of the intestine is arranged with as near an approximation to their usual position as is consistent with a distorted base of growth. The tumor is, however, different from a simple hypertrophy of the tissues involved, inasmuch as both in the mucous layer and also in the central connective tissue, there are indications of infiltration with the small round cells mentioned, more especially in the vicinity of the solitary glands.

Such infiltration, while common to many forms of inflammation, is an almost constant phenomenon in the vicinity of carcinoma, and as such it is to be regarded as suspicious in this connection. The very hypertrophy of the glands is also common to innocent as well as to malignant growth.

On the whole, then, I regard the prognosis as unfavorable, so far as based upon the probabilities of the direction which the growth may take in future.

EDW. M. SCHAEFFER, M.D.

COPY OF DR. H. B. SAND'S LETTER.

No. 35 West 33d St., New York, May 5, 1886.

Dear Doctor:—I have examined Mr. W. carefully, and have come to the unpleasant conclusion that his disease is malignant.

I find within reach of the finger, a close stricture of the rectum which is surrounded by a hard infiltration, that has all the characteristics of carcinoma.

When he came here I removed a small exuberant mass projecting from the lower margin of the growth, and caused it to be submitted to microscopic examination. It seems to be a cylindrical epithelioma, such as often occurs in this situation. Considering the disease is probably malignant, I would advise palliative treatment, and have instructed the patient what to do in the management of his case.

In my opinion, the disease is situated too far from the anus to make desirable any attempt at extirpation.

Should time prove the diagnosis to be erroneous, and the stricture turn out to be simple in character, linear rectotomy could be performed with a fair chance of recovery. But in the present circumstances I believe that any operation would be injudicious. Very truly yours,

To Dr. O. B. M. H. B. SANDS.

LETTER OF DR. L. A. STIMSON (COPY).

34 West 33d St., New York, June 16, 1886.

Mr. G. E. W., My Dear Sir:—I am glad to hear that you are so much better, although my anticipations when you went away were by no means so glowing as yours. If you are right in attributing your improvement to Fowler's solution, the sooner you get in the habit of taking it the better, in my judgment.

As to the character and extent of the rectal trouble, I have nothing to add to what I told you and your brother. The growth is papillomatous, with at present no infiltration of the deeper tissues, but I believe it should be placed at rest as far as possible; that is, that the stricture should not be allowed to reform. I should advise that it be at once dilated with the finger or large bougie to a calibre of an inch or more, and kept at that size by the regular use of bougies. I think it would be more troublesome to dilate it at once to full size than to dilate it gradually. Very truly, R. H. STIMSON.

Report of remarks of Dr. J. Ford Thompson at a meeting of the Medical Society of the District of Columbia, Dec. 7, 1887: "He never operates in the condition to which Dr. Reyburn refers. He thought electricity an agent for good, but it is too apt to be, abused by enthusiasts. A few cases of stricture of the rectum treated by Newman, of New York, is worthy of mention. Dr. Thompson diagnosticated cancer of the rectum in a student of medicine; Drs. Agnew and Sands agreed with his diagnosis. He then went to St. Luke's Hospital in New York City, where a young physician cut the stricture. The patient stayed in the hospital until the wound healed, and then went to Boston, where he was under treatment for some time. He was almost insane and was sent to his mother in a deplorable condition. He heard of Dr. Newman and determined to try his treatment. Dr. Newman applied electricity for several months. In about eight months a stout, healthy-looking man entered Dr. T.'s office, but was not recognized. He said Dr. N. could introduce an electrode as large as a hen's egg. The rectum was dilated, and there was a ring of hard tissue present, but the man was apparently healthy. He does not believe that this man has been cured, but he is practically well and may live a useful life for many years. In large hospitals such cases are surgical curiosities."

Dr. J. Ford Thompson is professor of surgery and the leading surgeon in Washington, D. C., a man in good standing in the profession, and appreciated for his good qualities and character. While he openly declares that he does not believe much in the praised effects of electricity in medicine, his voluntary statement of the improvement in this case by electricity is of so much more weight, and proves the honesty and uprightness of the professor, for which I tender my sincere thanks.

This case is of great interest in many respects. The documentary evidence, copied from the original letters, I have given verbatim, so that the history of the case is made complete and stands recorded and verified as facts. While I have given facts only, I make no comments or speculations on the case besides the claim that the stricture was benefited by electrolysis. I do not know whether or not the patient would have been cured had he remained longer under treatment. The next two cases, Nos. 9 and 10, are reported by Dr. J. G. Davis, who sent the patients to me for operation, was present while they were treated, and took notes of these cases.

Case 9 (*No. 3001*).—Mrs. J. M. R.; age, 46. *History:* Born prematurely; always a frail child; had almost all the ailments childhood is heir to; all through her earlier years had "falling of the bowels," as she termed it; menstruated at 14 years of age; caught cold the first time by exposure in severe rainstorm; even after had the most excruciating pain at each returning period, growing worse with the progress of time. There was a history of constant constipation.

In June of 1863, during defecation while straining, something seemed to tear or give way; profuse bleeding followed, which recurred very frequently from this time on. In the autumn of 1863 she was married. The general health improved but little; the dysmenorrhœa, however, nearly ceased. November, 1864, she gave birth, prematurely, to her first child, it only living three days. The rectal (or bowel) trouble grew much worse. Stomach troubles now began—most violent dyspepsia, bowels swollen, constant eructations of gas. Then followed typhoid fever, from which patient did not recover for forty days, a mere wreck of her former self. Convalescence was very much retarded by the rectal trouble, hæmorrhoids having developed during the pregnancy. In the three months following had seventeen attacks of "wind colic;" she says the doctor in attendance at that time (1865) so termed it. Nothing but morphine would stop the extreme nausea. Patient had now become a confirmed invalid. She dragged along with constant use of laxatives, emollient ointment and a syringe. The menstrual periods entirely free from pain after the birth of her child. Patient by an indominant will power seemed to fight her way back to tolerable health. With all these disadvantages she got along fairly well till August, 1885; malaria ran into a continued fever of a typhoid type; she recovered slowly. In December of same year was taxed greatly by sickness in the family. Trips up long flights of stairs, coupled with the care and anxiety, seemed to aggravate the already existing rectal trouble, and it became unbearable. She sought medical aid. From the nature of the stools and the history I suspected stricture in ani. On examination, found stricture within the sphincter ani, with masses in the rectum. I advised surgical aid. She submitted to an operation for the removal of the tumors. The old fissure (of so many years' standing) was full of cicatricial tissue, which was removed with the masses. Patient now began to recover.

In the healing process, notwithstanding there was dilatation almost every day, the stricture became more and more troublesome. Oil injections had been used with every stool. The surgical operation was a perfect success, inasmuch as all the diseased tissue had been removed. The resulting cicatricial tissue, with the stricture, made a condition that beggars description. The case seemed almost hopeless. Hearing, through another physician, of the success by electrolysis in urethral strictures, I thought that possibly my patient might get relief from that source. I proposed a consultation with Dr. Robert Newman, of Thirty-sixth street, in January, 1887. Dr. Newman confirmed at once to the use of electricity. The supersensitiveness of the parts required the use of muriate of cocaine. Séances as follows:

January 4, 1887. Examination at Dr. Newman's office. He found stricture in ani; backwards it was densest in the cicatrix, from the old fissure between the internal and external sphincters.

January 19. Electrolysis. Felt the warmth for hours. It also caused a very free evacuation of the bowels (as though physic had been administered). The day following bowels moved also like a regular stool, the first of the kind for years. Patient much improved.

January 26. Electrolysis. Again she felt the warmth for hours; 4 milliampères, and same relief as before, with the bowel movements.

January 31. Electrolysis, as before. Small metal bulb electrode as negative to cicatricial portion of the stricture, held posteriorly between the sphincters; 4 milliampères for six minutes; positive sponge in hand.

February 7. Electrolysis as before, the patient still improving.

March 28. Electrolysis, same as before, with same result. Patient left the city for a time.

July 7. Patient returned again. Had electricity applied as before; experienced even better results than before.

July 28. Electrolysis repeated, 6 milliampères. Current was felt more sensitively, owing to the near proximity of the cicatrix to the sphincter, and it contracting all the time. Patient again left the city for the West. Patient so much improved, has grown a little neglectful.

January 31, 1889. Had a séance again with Dr. Newman. He treated her with his new Cabinet battery, 13 to 17 cells for ten minutes. Negative metal bulb in ani, covering cicatrix by one side, the other side protected by the finger. Did more good than even before. After this séance but little cicatricial tissue left.

March 2. Electrolysis repeated with 11 cells, 4 milliampères.

March 26. Same repeated. Scarcely any cicatrix perceptible. Shall advise supervision of condition from time to time, for some months to come. Patient has improved correspondingly in every other way, and cannot express in words her relief from the horrible condition she suffered from so many years.

Case 10 (No. 3005).—Mrs. E. M. B., aged 42 years. *History:* Born in Connecticut, of healthy parents. She was not robust as a girl. Did not menstruate till she was 16 years old. She married at 20 years of age. Had no bowel trouble till she became enceinte. Then had hæmorrhoids for the first time; suffered severely. First and only child was born when she was 21 years old. From this time on, says she was a constant sufferer with these hæmorrhoids. Tried physicians everywhere; could get no permanent relief. She says Dr. Tucker, of Brooklyn, told her "her bowels were growing up;" this was in 1882. In 1883 Dr. Calkins, of Jersey City, operated upon her by cutting away some of the masses and injecting others hypodermically, she says, with nitrate of silver and carbolic acid (judging from the odor and stains left on her linen). Previous to this, and subsequent to the birth of her son, she had three miscarriages or abortions. All this time she has had constant and obstinate constipation, with pain in defecation, burning sensation in the rectum, headaches, dyspepsia, with swelling of the bowels. To use her own expression, "she had barrels of gas," the eructation being very disagreeable. She was dragging out a miserable existence. At this stage of the case I was called in to treat the uterine complications. On examination (May, 1886), found uterus very much enlarged and congested, with prolapsus and a marked lateral displacement, also erosion of the os. Patient candid in giving her history; dates all her trouble to her first pregnancy. Has been married twice; no children by her second husband. Has had no specific trouble, and no history that would lead to such a supposition. I treated the complications by the usual methods. Patient improved very much in her general health; still the rectal trouble distressed her greatly, large masses protruding with every defecation. She would be prostrated with the distress. I told her she must have surgical help before she could recover. She concluded to go to the hospital. She entered July 3, 1886, was operated upon the 5th. The fibrous masses were removed by the knife. The surgical operation was a success, as far as the removal of the masses was concerned. As the points of incision healed, the cicatricial tissue formed increased the rectal difficulty. There were no evacuations of the bowels except under the use of laxatives and the syringe. (Will say, after Dr. Calkins' operation there was a very aggravated inflammation of bowels and uterus.) She continued with emollient ointments, laxatives and the syringe till late in the autumn of 1887. Patient returned to me for treatment; said she must have speedy relief, or she could not live. From the symptoms I had suspected stricture of the rectum for some time, but there was such a state of inflammation that she could not make up her mind to submit to a thorough examination. I, however, used cocaine 4 per cent. solution. On examination, found my fears confirmed. I at once proposed consultation with Dr. Newman, as he had benefited my previous case so much and so quickly. January 25, 1888, I took her to Dr. Newman's office. Her bowels were very costive and full of gas; rectum sore within and around the anus; fæces can not pass as a formed mass, only by laxatives and aid of syringe. Around the anus were remnants of hæmorrhoids rolled out of the mucous lining. Between the sphincters are denuded surfaces irritable to the touch. Sphincters are in constant contraction, causing pain and resisting the entrance of the finger or speculum. This examination was performed with or by the aid of cocaine. A metal egg-shaped bulb (No. 33 French) meets resistance at 3 and 5 inches, negative pole (with this bulb); positive in the hand. Electrolysis, 5 milliampères, overcame the resistance and passed up 9 inches. Cocaine was used; also prescribed a saline apperient; also Mitchell's suppositories: No. 10. ℞. Ext. belladonna, gr. ss; ext. opii, gr. 1. Circumference of electrode, 1¼ inches.

January 28. Electrolysis. Flat metal electrode 1¼ inches in circumference, as negative, passed both strictures with comparative ease; went up 6 inches, 5 milliampères for fourteen minutes.

February 1. Electrolysis. Round electrode 1¾ inches in circumference passed up as before, 9 inches.

February 8. Same electrode as used the last time passed with more ease and up to 12 inches.

February 11. Electrolysis. Round vaginal bulb electrode 2¼ inches in circumference passed quite easily up to 5½ inches. At this séance galvanism was used externally, positive pole on the pit of the stomach, negative moved in the direction of the colon, to increase peristaltic action. Did much good; caused the dislodgment of old fæcal matter.

February 25. Electrolysis as before, same bulb passing up 6½ inches. External galvanism again.

March 28. Electrolysis as before. Hæmorrhoids in anus giving trouble. Prescribed ointment to be applied with Pile syringe. ℞. Ung. hydrarg. ammoniatum.

April 7. Electrolysis as before. Same bulb, round, 2¼ inches, passed by degrees to 8 inches; 10 milliampères; also prescribed pills:

Hydrastin . . . . 40 gr.
Ext. gentian . . . . 20 gr. One, ter. in die.
Ft. pill . . . . No. xx.

April 21. Electrolysis. Large round bulb passed quite easy. Hydrastin pills doing good.

May 2. Electrolysis, same as before; 2¼ inch bulb passed to six inches with ease.

June 11. Electrolysis, same as before; strictures nearly gone.

July 7. Electrolysis as before; case still improving. Patient left the city for the summer, much improved in health.

September 15. Electrolysis as before she went away. Large bulb passing readily to 8 inches.

October 6. Electrolysis as before, with the same result.

November 14. Electrolysis as before, same large bulb electrode passed to 11 inches with ease, strength of current 10 milliampères.

December 12. Electrolysis as before, stiff flat electrode passed to 5¾ inches.

May 18, 1889. Reëxamination at Dr. Newman's office. Rectum was found in good condition, a large metal bulb passed easily, without finding a stricture.

Case II (No. 3041)—Stricture and Ulcerations in Rectum.—H. K., æt. 26 years, married, bookkeeper; complains of dysentery, frequent bloody stools, pain in rectum, particularly on defecation. When 8 years old, he had daily four to six passages, which were diarrhœal in character and mixed with blood. There was prolapsus ani to such a degree that the rectum protruded outside almost every day. This state lasted for years, until he was almost 18 years old. Then he was comparatively well until eighteen months ago. He had dysentery and the bowels acted similarly as during his former illness. He had loose bowels, frequent passages of a dark color mixed with blood, pain, capricious appetite, meteorisms, lost flesh and became very weak. He has been treated in turn by different eminent physicians, who prescribed medicine for him, but neither of them examined his rectum.

June 10, 1888. Examination. Rectum is so sensitive that a digital examination could not be made. Injected a solution of cocaine, and then made an examination with the endoscope. Found rectum very much inflamed, with a high red color, mucous lining congested with several ulcerations, from which blood oozed. Endoscopic tube would not enter further than 4 inches, where it was arrested, and a stricture found. The ulcerations were touched with a solution of nitrate of silver. Injections of soap and water were ordered, also a weak solution of cocaine in case the pain should be troublesome.

June 17. Electrolysis; positive sponge electrode in hand, negative flexible electrode with a round metal bulb at the end, of 1¼ inch circumference, in rectum, was arrested at 4 inches by the stricture. A current of 5 milliampères acted rather severely, patient complaining of pain, and had to be reduced to 4 milliampères. After seven minutes the bulb slipped through the stricture, and then was inserted 12 inches up, without finding any other stricture. On withdrawal, the stricture was further electrolyzed. The whole séance lasted twelve minutes.

June 24. Endoscopic examination found the whole rectum much improved; the tube did not pass the stricture. The ulcerations were touched with the solution as before.

July 1. Electrolysis, positive in hand, negative in rectum, with a round metallic bulb 1¾ inch in circumference. There was not so much sensitiveness and a current of 10 milliampères was tolerated, the bulb enlarged the stricture more and after five minutes passed it, and was further introduced to 8½ inches. Séance lasted eight minutes.

July 7. Endoscope revealed much improvement, ulcers have nearly healed up, mucous lining is less congested, color is better, a light application with a brush given. A tonic and appetizer ordered.

July 13. Electrolysis Negative flat bulb, circumference 1¼ inch, passed up only 3½ inches, 8 milliampères for six minutes.

July 20 Endoscope found parts very much improved, in fact almost well. Patient feels well now, has every day only one passage, which is nearly normal; fæces well formed, but a little flattened. Ordered one pill at night of hydrastin.

August 3. Electrolysis. Negative round metal bulb 2¼ inches in circumference for twelve minutes, with a current of 10 milliampères, passed well through stricture.

August 17. Reports progress in every way; is almost well. Endoscopic tube passes through the stricture.

August 24. Electrolysis Negative bulb 3½ inches in circumference passed stricture after four minutes. Current increased to 12 milliampères, was well borne. Séance eight minutes.

September 2. Electrolysis. Large vaginal conical electrode passed stricture, enlarging it to 4½ inches in circumference, ten minutes, current of 10 milliampères.

September 30. A large bougie 4½ inches in circumference passes without an electric current. Patient is well. Bowels are regular, evacuations of a brown color and normal in every way. He has a good appetite, has gained flesh, and feels good in every respect.

1889. Have seen him recently, he had no relapse and kept well.

Case 12 (No. 3061).—Miss K. L , æt. 30 years, single. Has complained for years of a stubborn constipation with pain on defecation, stools changing from flat ribbon-like fæces, with diarrhœal discharges, and again constipation of one movement in a week; sometimes a protrusion of a mass from anus. She has taken medicine and injections with partial, temporary relief, but has opposed an examination. Her general health has run down, she has lost flesh and ambition, so that necessity compelled her to permit an examination.

August 31, 1888. On digital exploration of the rectum a semi-solid tumor was found 2½ inches from anus, with uncertain margins, and hard masses in it. There is a decided stricture, the cavity in rectum ends abruptly like a cul-de-sac, so that it is difficult to find with the finger a continuation of the passage. The semi-solid mass is movable and can be pushed upwards. A small bougie passes the stricture, then advances easily and enters the sigmoid flexure.

September 6. Electrolysis. Finger reaches the tumor at 2½ inches from anus, when the continuation of the passage is lost, and the tip of the index finger appears to be in a cul-de-sac. A flexible electrode with a round bulb at the extremity, however, finds an opening, and by an electric current of 7 milliampères passes 9 inches upwards. The stricture is felt distinctly from 2½ to 3½ inches, and surrounding it is the tumor.

September 12. Electrolysis. Positive sponge electrode in hand; as negative a stiff electrode, with a flat metal bulb 1½ inches in circumference, with a current of 10 milliampères for twelve minutes, passed only 6 inches up. The tumor thereby was greatly diminished in size. The nature of this tumor I could not tell, but know positively that it is no hæmorrhoidal tumor.

September 19. Electrolysis. Negative pole, with a rectal round metal bulb 1¾ inch in circumference, passed 12 inches up the rectum and over sigmoid flexure easily. There is more marked improvement. Ten milliampères for fifteen minutes.

September 28. Electrolysis with 4 milliampères for eight minutes made marked *improvement*, tumor further diminishing.

October 5. Electrolysis repeated as before; 26 cells; 12 milliampères for fifteen minutes.

October 30. Electrolysis as before. Tumor has much diminished in size, is now only a small mass, as large as a big hazel-nut.

November 16. Electrolysis. Negative flat stiff electrode 1¾ inch in circumference passes well up to 6 inches with a current of 10 milliampères for fifteen minutes.

December 2. Electrolysis. Negative large, round bulb electrode, 10 cells, 5 milliampères for five minutes; then 20 cells, 12 milliampères, gave no inconvenience or unpleasant sensation. Electrode advanced up to 10 inches, but stricture at 3 inches was felt.

December 15. Patient feels well, a large vaginal bulb as negative electrode, 3 inches in circumference, passed easily up with a current of 6 milliampères. Séance 9 minutes. Patient is so well that she has discontinued any further treatment.

From other reliable sources two interesting cases are reported as follows.

No. 13.—Case of Stricture of the Rectum Treated with Electrolysis by Samuel Benton, M.D., M.R.C.S.—(*London Medical Register*, May 12, 1888.) *History:* S. T., aged 39 years; a married woman; has had five children; two living; youngest six years old. All her confinements natural; the last took place three years since; it was an eight months child, and lived five weeks; the other two children were prematurely born and died a few hours after birth. She has not had a miscarriage, and has never suffered from constipation or syphilis. About five years ago, after stool she had to lie down for ten minutes with acute pain at end of bowel; and sometimes a little bleeding occurred, which made her dread having a motion. Soon after this she noticed that the fæces were small, and defecation was accompanied by a bearing down sensation. Latterly, her symptoms have become more severe, the bowels acting three or four times a day; stools liquid.

Examination of Rectum.—A polypoid growth seen protruding outside anus about the size of a pea. Two inches from anus a stricture can be felt, which will not allow the little finger to enter.

A No. 1 rectal bougie was carefully held against the stricture for two minutes, but it could not enter. A No. 27 French urethral bougie was the largest instrument that could be gotten through the stricture.

Treatment.—Feb. 27, 1887. At first gradual dilatation was attempted by holding a metal electrode, equal in size to a No. 29 French urethral bougie, against the stricture for several minutes, but it failed. The negative pole of a continuous current battery was thus applied to the electrode by my colleague Mr. W. T. Whitmore; at first 4, afterwards 6 cells used; strength 15 to 20 milliampères; the patient merely feeling a little tingling sensation; but no pain. After six minutes the electrode slipped through the stricture.

February 9. A No. 29 French bougie passed of its own accord, after being held in the stricture. An electrode applied equal to No. 33 French negative current, 8 cells, used for half an hour; this went into the stricture, but not through it.

February 16. Patient states that she has had far less straining at stool, and feels decidedly better; bowels acts usually three times a day. An electrode equal to No. 33 French, or large No. 1 rectal bougie, applied for four minutes, but did not pass. Negative pole attached, and 6 cells used for 12 minutes; 8 cells applied, strength a little over 15 milliampères, for 15 minutes; the electrode then slipped through the stricture.

February 22. Catamenial period being in, treatment postponed.

March 3. Electrode applied, equal to No. 2 rectal bougie, for 30 minutes; 6 cells used, strength 15 milliampères; it passed into the stricture and was allowed to remain for 10 minutes. After this séance she felt so much relieved that she discontinued coming up to town for treatment.

February 27, 1888. A lapse of one year. Patient feels much better; she is stouter, has far less bearing down pain, and is able to pass a motion the size of her little finger. A No. 2 rectal bougie passes through the stricture without difficulty. She states that during the past year she has not been required to consult a doctor. "I am in much less discomfort; feel better in every way, and have derived great benefit from the treatment."

For the first few months after she left off coming to London she gave herself, about once in three weeks, a warm injection; but thinking this brought back the bearing down pain she discontinued it. Her bowels still act three times a day—in the early morning, after breakfast, and in the evening. She always sleeps lying on her back; bearing down and discomfort follow it. (She lies on either side.) A large sized No. 3 rectal electrode applied for ten minutes; 10 Leclanché cells, 2 milliampères, and then 15 cells, 5 milliampères applied for 6 minutes. It enlarged the entrance to stricture, but did not pass through.

March 6. She has felt very well since last séance. A small No. 3 rectal bougie passed through the stricture; No. 2 electrode, large size, passed into the stricture, and held there for 15 minutes; 10 cells used, strength 2½ milliampères.

March 19. Patient feels better. The index finger can be got into, and a No. 4 rectal electrode slips through the stricture. Negative pole attached to No. 4 electrode, 15 Leclanché cells used, strength 5 milliampères for 6 minutes; then 20 cells used, strength 10 milliampères, and left in the stricture 25 minutes.

Remarks.—For rectal work I prefer the metallic bulb of the electrode to be acorn shape; electrodes of this sort have been made for me by Messrs. Coxeter & Sons. Urethral electrodes should be made with egg shaped bulbs, as recommended by Dr. Robert Newman of New York. From the above notes it will be seen that this severe case of stricture of the rectum yielded to treatment by electrolysis, and at the end of a year the improvement was maintained. During this year no bougie was used, and no medicine taken. There is an element of risk about proctotomy, and had this operation been performed, she would certainly have had to keep her bed for a considerable time, and probably been condemned to use bougies for the rest of her life; gradual dilatation was attempted but failed. The patient whilst under electrolytic treatment was able to carry on her usual domestic duties, but the great interest of this case centers in the fact that the benefit derived was maintained after a cessation from treatment, for twelve months. Dr. W. T. Whitmore of London, has also treated cases sucessfully with electrolysis. His paper was read at a meeting of the West London Medico-Chirurgical Society and it is now in press, as I perceive from a private letter of Dr. Whitmore. The cases of Dr. Benton have not had a relapse in two years, as he reports to me in a letter as follows:

COPY FROM DR. SAM. BENTON'S LETTER.

LONDON, June 1, 1889.

Dear Dr. Newman:—The two patients who I treated for stricture of the rectum by electrolysis, and published the cases, have remained well and are permanently benefited. I have not had any more cases suitable for this method of treatment, or I should certainly use it again, etc. Yours,—

Case 14.—Dr. S. T. Earle, Jr., reported this case to the Medical and Surgical Society of Baltimore, and kindly has sent me the following notes:

Mrs. H. White, æt. about 30 years, has been troubled with difficulty in evacuating her bowels for the last seven or eight years. She presented herself to me for treatment by the advice of Dr. Rohé, January 26. I found a very tight stricture of the rectum, the result of specific lesions, about 1 inch above the normal site of the anus, and extending about 1 inch up the rectum. There was a considerable discharge of a thin muco-purulent character, a neoplasm as large as a walnut in Douglas' cul-de-sac, and the anterior wall of the rectum below the stricture was considerably thickened. Her evacuations were nearly always fluid in character, yet caused considerable pain, and when moulded were very narrow, and ribbon-shaped, and their discharge was attended with excruciating pain. The stricture was so tight as only to admit an ordinary size probe. She suffered very much with dysmenorrhœal pains, and copulation was also very painful. Also had frequent and severe headaches. At the suggestion of Dr. Rohé I determined to try electrolysis alone for the treatment of her stricture, unaided by any internal antisyphilitic remedies. I commenced the treatment with a Barrett chloride of silver battery, using from 10 to 15 cells without measuring the amount of current with a galvanometer. I used the negative pole in the rectum, and commenced with an electrode ⅛ of an inch in diameter, gave her two sittings a week, of fifteen minutes each. By the sixth sitting I had gradually increased the size of the electrode, until I had gotten to use one between $\frac{5}{8}$ and $\frac{6}{8}$ of an inch in diameter. Not being satisfied with the progress made in the absorption of the neoplasm, and desiring more current strength with less electromotor force, I substituted a Waite and Bartlett battery for the one I had been using—at the same time measured the amount of current used with the same make of galvanometer. I thereafter used from 50 to 100 milliampères of current. While the last mentioned strength of current produced considerable irritation of the rectum for several days, the intermediate strengths mentioned did not. Under the increased amount of current strength the neoplasm began to be absorbed rapidly, and disappeared entirely by the expiration of six or eight months; the discharge from the rectum of muco-pus lessened rapidly, the stools came with less and less pain, and soon began to be moulded, the dysmenorrhœal pains gradually passed off, copulation grew less painful, and she improved very rapidly generally. As cool weather came on the following fall, about eight months after I had begun the treatment, she again began to suffer very much with her head, and I placed her on potassium iodide internally, having satisfied myself that the good results gained in the rectum had been entirely due to electrolysis. This soon relieved her headache. After having gotten to the point where she had scarcely any trouble with the rectum, I then directed her only to come for treatment about once in two weeks, and she has continued to come at this interval ever since, with the exception of between two and three months in the early part of this year, when she did not come at all. When she did return I found the stricture a little tighter, but in two sittings got it back to where it formerly was. I did not exceed in the size of the electrode the one between $\frac{5}{8}$ and $\frac{6}{8}$ of an inch in diameter, as that was sufficiently large to allow her to have moulded stools with scarcely any pain. I should have stated that this patient has been treated three years prior to my seeing her, first with gradual dilatation by bougies, then by a linear proctotomy; the latter, however, was not followed by dilatation, and of course healed, leaving her in a worse condition than before. This obliterated her normal anus.

Dr. W. E. Stevenson, of London, writes in Cooper's Treatise on Diseases of the Rectum as follows:

"Strictures of the rectum can, like all other strictures, be treated by electricity. The amount of success achieved by this means depends upon the nature of the obstruction. In some cases cure can be effected, in others relief only can be obtained. But in these latter cases, where the stricture is due to cancer, life can be prolonged for a variable period, and made more endurable by the relief of pain; and that last and terrible expedient of colotomy can be postponed and perhaps dispensed with altogether."

As these words coincide exactly with my own experience, I took the liberty to make the quotation, and consider it of importance, as it comes from the best authority in London.

In recapitulating the facts in these twelve cases we find some interesting items. It seems that females are more inclined to have stricture; as out of twelve cases only two were men. Their ages were mostly between 30 and 40, the youngest 24, the oldest 62 years old. The two males were comparatively young men, respectively 23 and 26 years old. Eight cases were single strictures, four had multiple strictures. The duration of the malady was from 6 months to 20 years; the causes varied, but hæmorrhoids and constipation were important factors; other causes were syphilis, venereal, enteritis and dysentery. It is certain that a rectal stricture may follow any inflammation of the rectum. One case had the complication of five fistulæ, commencing in rectum and ending externally in different parts in vulva and gluteal region. As soon as the stricture was cured, the fistulæ healed up without any treatment. Only two cases had no previous treatment; two had medical, and the balance surgical treatment; six of which had been operated upon with the knife. Not in a single case had the previous treatment been successful, some were entire failures, and all that can be claimed in some exceptional instances, was a temporary relief followed by relapses. Even the most sanguine operator will admit that proctotomy must be followed by the use of a rectal bougie at regular intervals. If we now compare all other methods used formerly, with the treatment by electrolysis, we find that the latter has improved every case at least, and in the majority of cases has effected a cure. The three cases, 5, 6, 8, were certainly improved, but in the end may not prove satisfactory: one patient had too many complications, and while I have not heard from her, I know she could not have been permanently bene-

TABULAR STATISTICS OF THE TWELVE CASES.

Case.	Sex.	Age.	STRICTURES.			Cause and Complication.	Result of Previous Treatment.	Result of Electrolysis.	REMARKS.
			No.	Location.	Duration.				
1	F.	24	1	2½ inches.	6 mos	Venereal, 5 fistulæ.	Dilatation, no success.	Cure. . . .	Post-mortem specimen showed no relapse.
2	"	62	1	4 "	2 yrs.	Constipation, atony.	Medical, no success.	" . . .	No relapse in 10 years.
3	"	30	1	1½ "	5 "	Syphilis, pelvic cellulitis. . .	Dilatation, proctetomy, etc., Relapse.	" . . .	Remained well as long as heard from for ten years.
4	"	38	1	2½ "	2 "	Hæmorrhoids, constipation .	Operation, relapse	" . . .	Not heard from.
5	"	36	4	2, 3, 5¼, 10.	5 "	Syphilis, malaria, tuberculosis	Dilatation "	Improved.	. . . .
6	"	35	3	1¾, 3, 5, in.	10 "	Constipation	Proctetomy repeated, relapse.	"	Proctetomy; afterwards had to use rectal bougie; died Oct., '88.
7	"	43	2	5, 10 inches	3 "	Membranous enteritis	. . . .	Cure. . . .	Heard from; no relapse for 3 yrs.
8	M.	23	1	3½ "	1 "	Dysentery, suspected malignancy.	. . . .	Improved.	Heard of recently; is not worse.
9	F.	46	1	1½ "	10 "	Hæmorrhoids, fissure.	Proctetomy, operat'n, relapse	Cure. . . .	" " " no relapse in 1 yr.
10	"	44	2	3, 5 "	20 "	Hæmorrhoids, constipation .	Operation, relapse	" . . .	" " " " " "
11	M.	26	1	4 "	1 "	Dysentery proctitis, prolapsus, constipation.	Medical.	" . . .	" " " " " "
12	F.	30	1	2½ "	3 "	Tumor of uncertain nature. .	. . . .	" . . .	" " " " " "

fited; the second was an aggravated case, and the patient too poor to attend to herself, or even to come regularly for treatment. This case was then operated upon, and she had to use a rectal bougie regularly, by which means she kept the stricture from closing up again; but after four years had a relapse with complications and finally died. The improvement in the third case, No. 8, has been graciously acknowledged by several surgical authorities; however, the patient had to leave the city, thereby interrupting the treatment, and a papillamatous growth, which by some was considered cancerous, complicated the case to such a degree that a cure could scarcely be expected under any treatment. These cases are given just as they were, without claiming any success. The remaining nine cases, however, were cured by the electrolytic treatment, and as far as known no relapse had taken place, which were from one to ten years respectively; except one case in which nothing has been heard from.

The best results were achieved from the same method as used in treatment of urethral strictures by electrolysis, that means by metal bulbs, as negative, weak currents in intervals. But it is in the nature of the parts treated upon, that the current can be applied stronger and oftener than in the urethra. While in the urethra, a current of five milliampères is strong, we may increase in the rectum the current to fifteen and sometimes to twenty milliampères, we may prolong a séance from ten to thirty minutes, and repeat it in four days. Stronger currents and the treatment by needles have not proven as successful in my hands.

I hope not to be called too sanguine or an enthusiast, when I come to the following conclusions:

1. Electrolysis in the treatment of stricture of the rectum is not a panacea, on the contrary failures may happen; and probably will ultimately fail if the stricture is due to carcinoma.

2. Electrolysis will give improvement to the rectal stricture, when all other means have failed.

3. Electrolysis will cure a certain percentage of cases, without relapse, better than other modes of treatment, and without the necessity of an after-treatment or using bougies.

4. The best chances for a cure are with the fibrous inflammatory strictures.

5. The best mode of treatment is by a metallic bulb as negative, weak currents and intervals of four days to two weeks. (Further experience in time may change this rule.)

With these conclusions, I recommend electrolysis in the treatment of rectal stricture to the kind consideration of the profession.

68 W. 36th St., New York, June, 1889.

THE ORIGIN OF BONE AND JOINT SUPPURATION.

BEING A DISCUSSION OF THESIS NO. XXIX, "THE MOST FREQUENT CAUSE OF EITHER[1] IS TRAUMATISM," HELD BEFORE THE ST. LOUIS ACADEMY OF MEDICINE.

BY JOSEPH L. BAUER, M.D.,

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Prior to the bacteriological era, the existence of bone and joint disease was ascribed to either scrofula, struma or traumatism. The exponents of the latter based their etiological views, as they do to-day, upon clinical facts and the results of a methodical, yet purely mechanical treatment. The former view owed its prolonged existence to the seeming ridiculousness of ascribing so much responsibility to an injury, ofttimes of apparent harmlessness. Indeed an eminent satisfaction seized them, when the oft repeated question was asked: If as you contend a seeming slight traumatism should produce such dire results, why is it disintegration of bones and joints follows so rarely upon a dislocation or a fracture? This very sophistical question, often determined the views of the majority, and hence the growth of opinion in favor of the traumatic origin of these pathological conditions has been slow. A calm, logical consideration of the question can net but one result. The tendency of all injuries to the body is towards repair, provided the *vis medicatrix naturæ* is aided by the skilful assistance of the physician *in proper time*, and provided: the *vis medicatrix naturæ* is not modified in its activity by an inherent or imposed defect. Nor must this *inherent* or *imposed defect* be hypothetical, but must be proven by indisputable clinical evidence. Therefore hereditary influences must be *established* by the positive history of the family, and the imposed influence must be shown, not by the theory of *locus minoris resistentiæ* as a selective spot for mycotic elements to germinate and destroy. But, it must be established how these mycotic elements *secure* entrance into a healthy body, and await an injury to establish their disintegrating properties. And, we may safely assert, that the presence of bacteria or microbes of greater or lesser virulence in the circulating medium of the body, is in *itself* not sufficient to establish their activity upon a traumatism. In other words, like Darwin's missing link, "there is something wanting" to render such a position irrefutable.

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[1] The Differential Pathology and Diagnosis of Peristitis, Ostitis Osteomyelitis, by Drs. Lous Bauer and E. M. Powers.

Before discussing the latter proposition, I will have to revert to the simple differences between a traumatised bone and joint and a fracture or a dislocation. In the former the injury is noticeable but a moment, and becomes prominent only when the persistent violation of Nature's laws intensifies the original assault. In the latter, pain and physical defect is serious, and the physician is called at once to relieve it and place it in a position for Nature's reparative process. I will admit that this explanation must perforce be modified, if we take into consideration a few distinctive lesions that follow a badly set fracture and an unreduced dislocation. But, if it modifies the theory of traumatism, it certainly disestablishes the microbic view of *locus minoris resistentiæ*.

Prof. Dr. F. Rinne, of the Pathological Department of the University of Greifswald, has just concluded an excellent article in the *Archiv. für Klinische Chirurgie*, which embodies the detail of a large number of crucial experiments with reference to the subject under discussion, which in my opinion forever sets at rest the theory that there is a *locus minoris resistentiæ* for pathogenic microbes circulating in the blood.

Before, however, referring to his theses and the experiments which elucidate them, it may be well to cite an important case, which in a clinical sense adds strength to his position. For if this case shows anything, it demonstrates Mr. Hilton's proposition that, "Rest is the necessary antecedent to the healthy accomplishment of both repair and growth;" or as my friend, Dr. Bernays, aptly puts it, "The fact that growth and repair bear an exactly proportionate relation to physiological rest, local as well as general, is certainly the natural suggestion of a means towards an end, which should ever be kept prominently in view by the practitioner of medicine," and he might have added the practitioner of surgery. If the modern view of disease is accepted, the sensible suggestions of both of the gentlemen lose much, if not all of their weight.

Case 1.—P. S., æt. 11, was sent to me by my esteemed friend, Dr. D. W. McKeen of Russell, Kansas. The little fellow fell off his horse two and a half years previously, and soon thereafter presented a protuberance of the dorsal vertebræ. Before the deformity was noticed, he suffered with girdle pains, weakness of the extremities, gradually lost flesh, appetite grew less, in fact he soon presented the symptoms of spondylitis. When I saw him the deformity had made some headway; the bones and environment were painful to pressure and locomotion, locomotion was impeded by a feeling of weakness in the extremities, emaciation was marked, he had a rise of evening temperature; in fact presented the evidences of decided and rapid decay. The right eye bore evidence of specific disease. All sorts of treatment had been applied to no avail. I did not pay much attention to the condition indicated by the ocular change. Upon my suggestion the mother permitted me to take a cast of the spine, so that Bauer's cuirass, could be properly fitted by it. I also advised her of the necessity of her child maintaining *absolute recumbency* for at least six months. Hardly a week elapsed, when a change for the better manifested itself in every respect up to within a few weeks before the expiration of four months maintained in the recumbent posture. During all this time his appetite improved, his complexion became clearer, the pains disappeared. At the time mentioned he was seized with a cough, which soon developed a serious pulmonary complication. Another physician was called in who pronounced it miliary tuberculosis, and gave an unfavorable prognosis. This changed condition was communicated to me and my advice sought. I insisted upon his immediate removal to the city, assuming all the responsibility for the long journey. Upon arrival in the city, and after a careful examination, I diagnosed syphilis of the left lung. My reasons for doing so were first:

1. The history of hereditary syphilis.
2. The absence of irritative symptoms.
3. The *rapid* and *universal* involvement of the left lung.

Stuffing with Nicholson's liquid bread, Catlin's beef, wine and iron, claret, milk, cream, etc., and the systematic application of the inunction treatment sufficed to restore the lung to almost complete vitality, and to stimulate Nature's forces to renewed activity. When he left for home, the little fellow was to all intents and purposes well, and after a short continuance of the inunction he was given the iodide of potassium in ascending doses. When last heard from, "we cannot give him enough to eat." *No symptoms have developed traceable* to the vertebral lesion.

If this case proves anything, it shows that the constitutional vitiation exercised little or no influence upon the spondylitis, but that the enforced rest of the diseased spinal segments was sufficient for the restorative process.

Though our discussion specifically considers osteomyelitis and periostitis, it may not be amiss to include the etiological phases of some joint injuries. For this purpose the following case may be of interest also.

Case 2.—W. J., æt. 22, a lather by trade, whilst trimming a lath with an adze inflicted a perforating wound in the left knee-joint. He paid little or no attention to the injury, though noting that from the moment of the injury synovial fluid exuded from the opening. He continued to walk about though suffering considerable pain. One week after the injury he called at my office, though hardly able to walk. A careful examination noted loss of contour in the injured knee-joint, pain over the entire joint upon point pressure or movement; elevated local and general temperature; *pus in considerable* quantities oozing from the wound. A probe passed into the wound communicated with the joint. I at once decided to place the joint at rest in the extended position and protect the wound by simply applying some absorbent cotton. This was done and the limb immobilized by plaster of Paris bandage. This was at three o'clock in the afternoon; about 8 P. M. I was hastily summoned to see the patient and found that he was delirious and suffering considerable pain, which I attributed to pressure solely. The plaster of Paris shears soon relieved the pressure of the bandage and Bauer's gutter splint was substituted from that time to his complete recovery, a period involving two and a half weeks. No antiseptic medication, either internal or external, was prescribed and yet the patient recovered with full use of his joint.

No one will deny at this day that much has been gained by the acceptance of the microbic origin of suppuration as it occurs in bones and joints. And yet, if we examine the citation of cases, where so-called spontaneous suppurations have ensued in previously healthy subjects, where a general infectious disease or infectious center has not existed heretofore, or at the time of the suppuration, we are forced to doubt the exact force of the modern theory. Thus, Bryck (*Langenbeck's Archiv.*, Bd. xv, "Researches as to Resections") suggests a case of femoral dislocation, in which suppuration occurred after repeated attempts at reduction. The patient, 17 years of age, had previously been healthy.

P. Bruns (*Beitrage zur Klin. Chirurgie*, Bd. 1, S. 237ff. "The Torsion Fractures of the Cylindrical Bones") observed two cases of subcutaneous spiral fractures of the femur suppurate. Both patients died from septicæmia. In one there was also a compound fracture of the tibia with a fissure leading into the knee-joint. The knee-joint was filled with blood and air. Both joint and fracture treated antiseptically. Whilst these injuries were attended in the best of manner, the simple fracture of the femur suppurated. In the pus was found numerous cocci, connected often with diplococci and occuring in the chains, and in fresh preparations manifested a trembling movement.

Steinthal ("Suppuration of Simple Fractures," *Deut. Med Wessensch*, 1887, No. 21) describes two cases of simple suppurating fractures observed in the clinic at Heidelberg.

The first case a fracture of the femur in a hitherto healthy man, 28 years of age. From the very beginning he had high fever, and four weeks subsequently an abscess developed at the point of fracture, the pus odorless, suppuration of knee-joint, abscess of forearm, thrombosis of femoral vein in opposite limb and decubitus. Patient died. The second case concerned an old luxation of the caput femoris where efforts of reduction produced a fracture. Prior to that time the patient was always well, fourteen days subsequently fever set in and fluctuation appeared, five weeks afterwards an incision discharged one pint of a stinking grayish, green pus, the necrotic head was removed and the patient recovered.

In this case the patient had suffered from diarrhœa, probably from the presence of ingesta due to bad teeth. Steinthal thought that infection proceeded from diarrhœa. The first patient also had a diarrhœa beginning with the tenth day, but his fever commenced at once. S. believed that the infection proceeded through the lungs. Such a supposed infection in the absence of any expressed data where the poison had entered, inasmuch as there was no cutaneous injury, no erysipelas, nor any other manifest complication renders the speculations of S. very questionable.

It may be asserted that it is ofttimes impossible to determine a small cutaneous abrasion in a tissue swollen and folded by an injury, but as suppuration is so rare as a consequence of subcutaneous injury, we may leave this point untouched.

If we were to consider the respiratory or digestive tracts as points of entrance into the system and apply this supposition to the cases cited, it is difficult to perceive how the infectious material could reach the injured spot, without first affecting the general organism.

Now, Mr. Chairman, we are acquainted with the experiments of Rosenbach and others that suppuration may ensue as a result of an irritant injected subcutaneously, but as several gentlemen of the Academy do not consider the test a crucial one, I have concluded to present the résumé of Prof. Rinne, as found in his masterly essay and crucial experiments on suppuration and its metastases, and I trust the enthusiasts who look upon the microbes as the essential factor in the suppurative process will peruse it carefully.

"In taking a retrospect of the results of my investigations, we find that a long series of mechanical lesions in which the local presence of pus-cocci existed, has not the power of developing phlegmonous suppurating processes, provided the local injury is protected against the entrance of atmospheric air or oxygen.

"Subcutaneous incisions, even though immediate and concentrated injections of watery mixtures of the staphylococcus aureus and streptococcus were made in the surroundings on the injury, *did not suppurate.*

"Coccus mixtures were prepared by such concentration of pure cultures, that numberless cocci could be observed in one drop by the microscope. Therefore an uncomplicated, fresh subcutaneous wound is not a fertile soil for pyo-cocci in loco. Resorption is as rapid as in normal tissue, too rapid for the cocci to secure time to develop ptomaines, to irritate the tissues and multiply.

"Glass capsules filled with coccus-mixture and intimately grown into the skin is just as harmless, though the capsules are shattered weeks afterwards, and the cocci are permitted to come in contact with the young cicatricial tissue. Even though we then inject into the swollen late cicatrix pus-microbes in water, they are simply absorbed.

"In old cicatrices also containing particles of glass from rupture of glass capsules, cocci are absorbed without producing suppuration, even with intense infiltration and slower absorption. Cicatricial tissue is therefore not *locus minoris resistentiæ* for the pyo-cocci, on account of equal rapidity of absorption of the injected bacteria, as in late injured tissue; at least absorption is not notably retarded.

"The point of difficulty is to determine the power of resistance in injured tissue or in tissue changed by a cicatrix, towards the absorption of pathogenic pus microbes; the more rapid the resorption the less injurious are the bacteria. The active cellular infiltration, as an expression of the reaction of healthy tissue upon a traumatic injury, as it occurs in an encapsulated foreign body—irritation in the sense of Virchow's cellular pathology—exerts no predisposition for the development of bacteria, but is eminently opposed to it, inasmuch as it is Nature's most effective remedy for the successful combat against inimical parasites. We can therefore present the following: Subcutaneous injuries of a mechanical nature offer no predilection for the development of pus microbes existent *in loco* therein when, 1, the injury stimulates the absorption activity of the tissues; 2, that the mechanical irritation produces a cellular development—two conditions which are to be considered as defensive measures of the healthy organism in the battle of the cells against bacteria (phagocytes, Osler). It follows further, that the tissue lesion, which in this sense produce an inflammatory reaction, is not to be considered as a predisposing factor in the question of metastatic suppuration. But that a mechanical irritant can under certain circumstances produce a predominance of bacterial development, is well demonstrated in the experiments with the woolen threads,[2] that were saturated with the cocci. Nevertheless, this result in a certain sense emphasizes the previous statement; for the character of the suppuration evidences, that the resorptive power of the tissues and the active reparative qualities of cells was demonstrated, nevertheless, these pus microbes have had an opportunity of developing pus; and considering some of our other failures, it is to be explained, that the cocci contained in the meshes of the woolen thread occupied a relatively protected position against resorption and the cells, and experience such a rapid multiplication, that ptomaines may develop in the neighboring tissue before the foreign body is completely encapsuled. But the suppuration cannot develop further, because the active cell proliferation of the surroundings acts as an impenetrable barrier to the onward progress of the bacteria. These succumb gradually and are absorbed, in part by the leucocytes and partly by the pus globules, as shown by the cocci-containing pus globules. The pus corpuscles succumb to fatty degeneration. A mechanical irritation or lesion of the tissues containing pus microbes may suppurate when an irritant foreign body, located in the tissues, gives the cocci an opportunity to develop ptomaines, necessary to the establishment of the suppurative process; that the pus does not take upon itself a phlegmonous character, is explained by the factors shown in the previous experiments, which do not permit the evolution of the pus developing quality of the bacteria to manifest itself; through resorption, the protective cell development and the absence of oxygen, a battle, in fact, in which the bacteria always suffer.

"A further possibility for the origin of local suppuration is to be seen in the character of the manifestations after the application of an irritant, as in the impregnated woolen thread. Let us next consider the question of suppuration by chemical agents and its relation to the presence of bacteria. Inasmuch as ptomaines play such an important part in the suppurative process, and the importance which certain chemical substances, croton oil, ammoniac, have in the development of suppuration, under certain conditions without the aid of the bacteria, but above all, as they can in a definite concentration render the growth of existent bacteria easier in a fibro-mucous exudation, I consider it necessary to make some experiments to ascertain if a migration of microbes from other parts of the body occurred towards abscesses or inflammatory foci produced by chemical agents. 1. Inflammatory foci were produced in animals, dogs and cats, by injection of different chemical substances, nitrate of silver, lye, ammoniac, croton oil, cadaverin, etc. Immediately thereafter pure cultures of pus microbes were injected, (*a*), subcutaneously in remote parts of the body; (*b*), in the abdominal cavity; (*c*), in the blood current. In not a single case could these injected pyo-cocci be demonstrated in the chemical abscesses. Even in the development of diffused phlegmonous and ichorous centres with multiple decomposition bacteria of different varieties, could the migration of bacteria be determined in chemical abscesses, inflammation foci, if a separation of both points was sufficient. 2. Even though the experiment was reversed, if phlegmons and abscesses were primarily developed, and then chemical suppuration, the result was negative. 3. If, as a result of the chemical irritation, a cutaneous necrosis ensued, a migration of atmospheric bacteria frequently ensued, but a suppurative focus never manifested the presence of those cocci which were incorporated subcutaneously through the circulation or into the abdominal cavity. Simultaneously with croton oil, ammonia, cadaverin, pyococci were injected. In a few cases, intense phlegmons coincidental with a partial necrosis of the skin followed. Here both forms of microbes in large numbers were made evident. But more frequently intense cauterization ensued with diffused necrosis and rapid mummification. As a rule, cocci capable of life could not be demonstrated in these experiments. The migration of injected bacteria could not be determined in the inflammatory focus."

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[2] See experiments iv and v, Archiv. f. Klin. Chirurg., Vol. xxxix, No. 2, 1889, pp. 258, 259.

Whilst I believe, Mr. Chairman, the results of the experiments made by Dr. Rinne manifestly prove the position taken by thesis 29, and which I have endeavored to elucidate in the beginning of my remarks, before closing my part of the discussion, I desire to present the following few points which will be of interest: The author says: "From the experiments which I have detailed, I have shown that subcutaneous injuries of tissues with strong lye, nitrate of silver, or *any* of the other cauterant chemical groups, are not even then a *locus minoris resistentiœ* for pyococci, even though these chemicals in themselves produce suppuration when ammoniac or ptomaines are injected (syringe), they can, 1, produce abscess when injected in intense concentration; 2, they can prepare the soil when bacteria are injected with them; 3, they can render the entrance of bacteria possible when they produce necrosis of the skin, but they cannot open the inflammatory centre to the bacteria of the blood."

Let it be distinctly understood, however, that I do not dispute the possibility of concurrent or antecedent infectious diseases, or rather their causal factors derived from the atmosphere, exerting such a continued and persistent change in the general tissue, that they will create a *locus minoris resistantiœ* after a traumatism, provided this cell proliferation does not ensue. Nor will I deny the influence which the pneumococcus, gonococcus, streptococcus of rheumatism, erysipelococcus, or coccus of diphtheria or typhoid fever may exert upon the general organism and special localities through the agency of the lymph and blood currents. Sonnenschein, Grawitz, Cornil, Bates, E. von Hofman and many others have demonstrated this fact. Latterly Smirnoff, St. Petersburg, 1889, has developed this point in his microscopic examinations of the synovial fluid of the knee and shoulder-joint, taken from patients suffering from infectious diseases such as erysipelas, phlegmons, phthisis, typhus, diphtheria and gonorrhœa. But, though the pathogenic elements typical of these diseases were present in the fluid examined, he does not inform us *what* pathological changes were noted in the articulation from which the synovia was removed.

We must certainly insist that these specific infections must be made out, either by demonstrating their hereditary existence, or development a short period previously, before we can accept the view that these bacteria are responsible for almost all bone and joint suppurations. In order to be scientifically accurate, we must *establish the particular sort* by irrefutable evidence, and not assume upon theoretical statements that the differences in infective liability are to be sought in this peculiar fitness of the tissues for the reception of microörganisms.

Inasmuch, gentlemen, as our discussion refers particularly to the traumatic origin of periosteal or medullary inflammations, permit me to offer a few remarks upon this point.

Thesis No. 1 considers bone with its fibrous envelope an anatomical unit. Its histological study confirms this view. Yet, we know by abundant evidence that under certain circumstances, the osteogenetic properties of either may be exerted independently. It follows from this indisputable fact (subperiosteal resections, subperiosteal removal of individual bones), that the views of Macewen are somewhat overdrawn. Yet if we study its clinical phenomena, we are confronted with the interdependence of the bone proper and the periosteum. Thus, it is simply a matter of time, when a periosteal inflammation will be combined with an osteomyelitis, and *vice* *versa.* But, the early interference of the surgeon can and does interfere with this ultimate connection.

Could I offer a better proof of the traumatic origin of periostitis in a large number of cases than the results of treatment? Bryant has placed in bold relief the *influence of tension* on inflammatory affections, and *has demonstrated the immediate relief* of inflammatory phenomena, after such tension has been removed. *We are all acquainted with* the prompt results derived from the surgical treatment of both osteomyelitis and periostitis. *Subcutaneous division of the inflamed periosteum* almost invariably leads to the cessation of the inflammatory process. If this is not done, *suppuration with destruction of bone ensues.* And what have been the results of treatment in osteomyelitis; of malaria; typhoid fever; exposure to damp cold—has not the relief of intra-osseous tension curtailed, even estopped the pathological process! and will the microbists assert that the well-known virulence and power of tissue penetration of bacteria is prevented by allowing the escape of a few drops of pus or blood?

And how do the microbists explain the origin and recurrence of "The Multiple Recurring Bone Inflammation Common to Mother of Pearl Workers," as described by English (*Wiener Med. Presse*, 1869, *Wiener Med. Wochensch.*, 1870) and Gussenbauer (*Archiv. f. Klin. Chirurg.*, Bd. 18, 1875). Will they accept this pathological condition on the basis of the possibility of "pearl dust" being deposited in the pulmonary parenchyma and, after undergoing some changes, are found as small emboli in the osseous vessels. Or will they accept the assumed, and to me far-fetched, microbic view of Dr. J. Decker (*Berl. Klin. Woch.*, November 11, 1889, p. 975), of Munich?

Permit me to close my remarks with the question: Has it been absolutely proven, that microbes are not scavengers merely?

517 Pine Street, St. Louis.

MEDICAL PROGRESS.

The Therapeutical Application of Oxygen.—V. von Gyurkovechky. According to this author, inhalations of oxygen are indicated where there is acute or chronic saturation of the blood with carbolic acid; he also recommends its use for imperfect oxygenation in cases of physical weakness, anæmia, leucæmia, chlorosis, indigestion, ennervating nervous diseases, diabetes, hemicrania, sleeplessness, and impotence. The oxygen used must be pure; the quantity to be inhaled depends upon individual peculiarities and the character of the disease, and varies from 10–30 litres per day. Old people require less than the young; the enfeebled less than the strong. The best time for its administration is before breakfast or before the other meals. Accidents have never been observed by the author. Hæmoptysis and aortic aneurism contraindicates its use.—*Cent. für Klin. Med.*

Labor Complicated by an Ovarian Tumor.—In the Gynecological Society of Dresden, Munchmeyer reported the case of a multipara 30 years of age, who was admitted to the hospital during labor. An examination revealed a remarkably high position of the head caused by the presence of a large firm tumor which really filled the true pelvis. Attempts at reposition failed; puncture resulted only in the escape of a little fluid blood, the tumor showing no disposition to diminish in size. After death of the child delivery was accomplished by perforating and using the cranioclost, the latter being introduced through an os dilated only to the size of a dollar. For four weeks after labor the tumor, which was connected with the left ovary, remained unchanged, and then began to decrease in size. Ovariotomy was performed and the tumor found to be a spindle-celled sarcoma of the left ovary. The patient made a good recovery and was discharged in three weeks. The points of interest in this case are the extraordinary swelling of the tumor shortly before labor, and the lack of any special symptoms in spite of its malignant character.—*Cent. für Gyn.*

Treatment of Anthrax by Hypodermic Injections of Carbolic Acid.—Dr. Danet reports four cases of anthrax cured by the hypodermic injection of glyco-phenic acid. The solution was employed in the strength of 3 per cent. of which 4 to 5 cubic centimetres was employed, this amount being injected at several points, and 1 cubic centimetre being introduced through each puncture.—*Journ. de Méd. de Paris.*

Insolubility of Compressed Tablets.—The case of a boy, æt. 8 years, is reported, in which compressed tablets of antipyrin containing 0.5 grm. each were administered for fever; the tablets passed through the intestinal canal unaltered. In a similar manner compressed tablets of phenacetin containing the same amount were given to a boy of 10 years for neuralgia; these two were discharged undissolved.—*Corres. für Schw. Aerzte.*

Caffein in Adynamia.—Huchard recommends large subcutaneous injections of caffein as a valuable remedy in adynamic conditions particularly as its action, contrary to that of digitalis, is first upon the nervous system and then upon the heart. He employs from 2.0 to 3.0 grm. per day and finds that it can be given with the best results while the benefit of a daily dose of 0.2 to 0.5 grm. is illusory.

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SATURDAY, MAY 17, 1890.

A FUNCTION OF DOGMA.

"You are the most dogmatic man of my acquaintance!" In the course of a heated discussion, not very long ago, this remark was addressed by a distinguished medical man apparently to his opponent. Probably, the words were really aimed at the other members of the Society, with a view to discredit his antagonist, whose argument, possibly from inability, the speaker did not attempt to refute. Plainly the remark is a typical example of the *argumentum ad hominem*, an instance of that material fallacy, recognized by all logicians from Aristotle down to Archbishop Whately, as the irrelevant conclusion. Technically this fallacy is called *ignoratio elenchi*, or literally ignorance of the refutation, and the name indicates clearly its use in sophistry. It is the great resource of those that have to support a weak case. Some lawyers are familiar with it, as in the case of the English attorney for the defendant, who is said to have handed to the barrister his brief marked, "No case; abuse the plaintiff's attorney." Among scientific men, however, honesty is ever at a premium, and all such quirks and quibbles are apt to be promptly detected and condignly punished. Simply on the ground of expediency, therefore, if from no loftier motive, this sophism is seldom employed in medical discussion.

For the purpose of this note, the truth of the allegation in the case cited may be conceded, but the admission does not necessarily discredit the opponent. Dogma—"A peremptory opinion, a formally stated and authoritatively settled doctrine, resting on what is regarded as competent to decide and determine"—plays, has always played, and will continue to play a rôle in the evolution of the science of medicine as essential as that in theology and metaphysics. To be sure the adjective, "dogmatic," is commonly suggestive of the unpleasant notion of positive, overbearing, arrogant assertion, which is fully justified neither by etymology nor by best usage. Professor C. C. Everett, in the December number of *The Forum*, contributes a thoughtful paper on "The Natural History of Dogma," which, while outlining more especially the function of dogma in theology, still is germane to the subject in hand. Most of his conclusions can be applied with but slight modification to the function of dogma in medicine.

The origin of dogma is to be sought first in effort of the mind to arrive at truth, to establish proof. But "proof, by its very nature, implies that which is unproved, and, in the final analysis, that which cannot be proved. An argument which is based on no assumption is as useless, for all purposes of support, as a chain that is fixed to no staple. If we prove the assumption upon which any one line of reasoning rests, it must be because we have found another behind it. An endless chain of reasoning, that is, one that is all links with no fixed point anywhere, is an idle dream." In the same strain, Huxley has said that every science must proceed with the enlightened conviction that ultimate fixity of conception is here unattainable.

"Further, in very few cases do any of us go back to the primary assumptions of the mind. Our belief, in most cases, rests upon such ready-made assumptions as our social environment offers us." These assumptions and inherited methods of thought constitute what Professor Everett calls "the irrational activity of the mind," and thus imply a dependence upon the past, that some of the moderns are disposed to resent. This resentment, of course, is all the more unreasonable since "the fact that every age has a set of more or less definite opinions and presumptions ready for its children, is" the condition that "makes progress possible."

The second factor in the origin of dogma is the "strictly rational activity" of the mind. "Human reason is unwilling to let anything rest in its separateness. It is fundamentally a systematizer. It will see everything in relation to everything else. Thought tends to globe itself, no less than a drop of quicksilver. Any thought that is introduced into the mind seeks to find or to make a place for itself. If it can do neither, it passes away, leaving no impress from its brief presence."

Conditioned thus in development, it is obvious that the "same influences which produced" dogmas tend at last to bring about their dissolution. Of course we must except those cases in which the doctrines, passing the limits of probable evidence, ultimately obtain a basis upon facts capable of objective demonstration. Fortunately such instances in the history of medicine are not uncommon, and they are daily increasing in number. To follow Prof. Everett's plan, to illustrate and to apply these general principles, no more striking example could be selected than the doctrine of the infectious wound diseases.

At the present time, and especially in our own country, it appears to us, there exists a tendency, more manifest in some departments than in others, to "count it a bondage to fix a belief, affecting free will in thinking as well as in acting; and though the sects of philosophers of that kind be gone, yet there remain certain discoursing wits which are of the same veins, though there be not so much blood in them as was in those of the ancients."

This tendency plainly indicates a neglect to employ "the strictly rational activity of the mind" which, we have seen, constitutes such an important function of dogma. Take, for example, the doctrines of "eclampsia" and of "placenta prævia," the two most fearful complications of gestation, as presented in our text-books and journal literature. We venture the assertion, without fear of contradiction, that the accounts of the pathology and treatment of these two conditions in our text-books and journal literature are inadequate, and that they reflect inaccurately the world's actual stock of knowledge. The cause of this tendency, we think, does not consist so much in "a natural, though corrupt love of the lie itself," for, as before remarked, medical men are honest, if anything; but, rather, in the "difficulty and labor" which men must needs take in finding out the truth. No one will deny that medical men are sometimes lazy when it comes to reading, study and reflection. Possibly also the second-hand character of our information, derived, as it is for the most part, from German sources, may be at the root of this unwholesome agnosticism, that is destitute of all power and virility.

A MUNIFICENT PROPOSAL.

At the annual meeting of the Illinois State Medical Society, held in Chicago May 6–9, 1890, Mr. Wm. F. Poole, Librarian, representing the trustees of the Newberry Library, was introduced to the audience, and in a short and effective address, expressed the purpose of the trustees, with reference to a medical library.

In the construction af the library building one Section will be devoted exclusively to medicine. It is their intention to place in that department a library so complete as to meet, as far as possible, the wants of all who wish to consult medical authorities. They will also keep constantly on file, as they are issued, the current numbers of all prominent medical journals published in this, and in foreign countries.

They invite the members of the Society to suggest the names of any books, or series of books, that they may deem desirable, and, as far as practicable, such additions to the library will be made. *In short, it is their purpose to develop* a Reference Library so complete that whatever authorities medical men may desire to consult they may here be found.

When it is remembered that this institution has at command two millions of dollars, and that as trustees superior men could not be named, and that it commands a librarian of world-wide reputation, it is at once apparent that its trustees could pay to the medical profession no higher compliment.' The City of the Lakes is unspeakably fortunate, *in that it will thus be able to* furnish to the *profession a library which can, to* the utmost, supply the needs of literary and scientific workers in every department of medical investigation. Private reading rooms and every facility for reference will be afforded free of charge.

THE INSANE POOR AS A STATE CHARGE.

The New York State enactment regarding pauper lunatics has recently been signed by the Governor, and will probably greatly ameliorate the condition of those insane persons who have hitherto been regarded as county charges, and whose treatment has been practically the same as that given to paupers. The effects of the bill will be, first, to establish the policy of State care and State support for all the insane who are, or who may hereafter, become a public charge; second, that it destroys the pernicious legal discrimination between the chronic and acute insane, and third, that it provides for the removal of all the insane from the county poorhouses, and forbids their detention in these places when the State shall have made accommodations large enough to take them all in. For the present, the State hospitals for the insane will not be sufficient for all the county charges, and must be enlarged at once. This humane law has been beaten three times before, but each year it showed a greater and greater strength until the present session, when its opponents were able to make only a show of resistance to its adoption.

THE ANTISEPTIC TIN DRESSING FOR CHRONIC ULCERS OF THE LEG.

The last report of the Boston City Hospital contains an account of the tin dressing for ulcers of the leg, used by DR. FRANCIS S. WATSON, at that institution. The ulcer and surrounding surface are soaked in a solution of corrosive sublimate, one part to 4,000, for ten to fifteen minutes. The surface about the ulcer is then dried and thoroughly cleansed, the ulcer itself being lightly dusted with calomel or iodoform. A piece of protective of Mackintosh cloth is then cut out, of the shape of the ulcer, and in size a little larger, covering a little more than the surface of the ulcer. Next a piece of sheet-tin is cut to the shape and size of the ulcer, and bent to fit smoothly the curve and contour of the leg at this point. This is laid over the protective after that has been laid on the ulcer with as smooth a surface as possible, in order that, when the time comes to change the dressing, it can be lifted off without tearing up the newly formed tissues beneath it. Over the tin is placed a square of sterilized or sublimated gauze, dry, and outside of this a larger square of antiseptic gauze of some kind, enveloping the leg; then the whole is held in place by a bandage extending from the toes to the knee.

PROF. THEIRSCH, of Leipzig, has been chosen President of the next Congress of German Physicians.

EDITORIAL NOTES.

HOME.

THE NEXT PLACE OF MEETING.—Several cities were named at the last annual meeting, each of which seemed a desirable one for a meeting of the Association. Within the last few weeks there has been a strong movement on the part of our Omaha friends to secure the meeting of 1891 in that city. With reference to accommodations we are confident that the citizens of Omaha and Council Bluffs, in a combined effort, would be able to meet every requirement in a right royal manner. But the question of location is the one to be more seriously considered. Will the Pacific States be more fully represented at Omaha than at some prominent point farther east? If not—secondly, will the distance be a bar to a full attendance of delegates from the Atlantic, the Eastern-Middle, and the Southern States? If so the location would be unfortunate, not as to matters of entertainment but as regards the number in attendance. The place in which the most physicians will congregate is the desirable location for our next meeting.

ILLINOIS STATE MEDICAL SOCIETY.—The officers elected for the ensuing year are as follows: President, J. P. Mathews, Carlinville; First Vice-President, C. C. Hunt, Dixon; Second Vice-President, F. C. Schaefer, Chicago; Treasurer, T. McIlvane, Peoria; Assistant Secretary, George N. Kreider, Springfield. The next annual meeting will be held in Springfield, commencing the third Tuesday in May, 1891.

A NEW HOSPITAL is to be built and maintained in Sioux City, Iowa. Thus, one by one, our Western States are taking active measures to meet the sanitary needs of their rapidly growing populations.

SCIENTIFIC ACHIEVEMENTS.—A high order of talent combined with special culture is absolutely essential to the proper development of the scientific questions which present themselves for investigation at the present hour and in the immediate future. The field of microscopy, comparatively new, presents its claims with imperative demands. In the lines of microscopic investigations there seems hardly to be a limit to the possibility of new achievements as signal as those already attained, and, doubtless, more so. In the application of electricity as a therapeutic agent we are as yet but in the beginning of our investigations, and the successes already attained forbid that we should rest content with what is known only in part. The application of electricity in phonography is not a curiosity merely, but is already a marvel of utility. Not only may the utterances of men be treasured up for future uses, but the vocal intonations with which they were delivered are to be preserved as well. In the meeting of the Association to be held at Nashville one of the Addresses in the Section on Medicine has already been recorded upon a little cylinder, and will be reproduced as audible as when first delivered, the author himself being a thousand miles away.

THE CHICAGO MEDICAL COLLEGE.—In connection with the Illinois College of Pharmacy the Chicago Medical College, the Medical Department of the Northwestern University, is making active preparations for the erection of new and commodious buildings, which shall afford to each of the institutions thus associated increased facilities for instruction. Desirable lots have already been secured on the corner of Twenty-fifth and Dearborn streets, and the work of construction will be pushed rapidly forward to completion.

ANNUAL REPORTS OF THE ILLINOIS STATE BOARD OF HEALTH.—Licentiates of the Board can obtain copies of the Ninth and Tenth Annual Reports, also the Report on Medical Education and Medical Colleges, by applying to the Secretary, John H. Rauch, M.D., Springfield, Ill.

THE ASSOCIATION AND THE PACIFIC COAST.—We are advised that Dr. Winslow Anderson, Editor and Publisher of the *Pacific Medical Journal*, who is a delegate from his State to the meeting of the Association at Nashville, is instructed by the State Medical Society of California to present its compliments to the Association and to urge that the next annual meeting be held in the City of San Francisco. That city has now a population of over three hundred thousand people, with over three hundred physicians in active practice in affiliation with the Association.

The contiguous States and Territories of Washington, Oregon, Nevada and Arizona are representative of over three thousand physicians, and it is confidently represented that from twelve to fifteen hundred of them would be in attendance from the coast alone. The Association, National in its character, should be National in its outreaching, and it owes to California the acceptance of such a generous invitation in the near future. Perhaps the fitting time for acceptance is now!

LEPROSY.—A single case of leprosy is reported in Mississippi. The State Board of Health will doubtless give the case their especial attention.

FOREIGN.

DEATH-RATE AND MORTALITY OF INFANTS IN JAPAN.—A correspondent of the *British Medical Journal* says that the death-rate of the population of the whole Empire, as gathered from the well edited reports of Mr. N. Sensai, the able chief of the statistical health bureau, is 19.33 per 1,000, due to the low infant mortality. The Japanese have the most tender affection for their children; and all travelers are agreed that next to the beauty of the scenery and the gentle and graceful courtesy of all classes of the population, ranks as among the most pleasurable incidents of sojourn in Japan, the universal love of children and the amiable gaiety with which their pleasures are studied.

AT THE SURGICAL CONGRESS recently held at Berlin, it was announced that the German Emperor had contributed 100,000 marks (£5,000) towards the new Langenbeck Institution, which is to be the general home of the medical societies of the Prussian capital.

THE PNEUMATOSCOPE.—At the meeting of the Vienna Medical Society on February 26, Dr. Gabritschewski, a Privat Docent, of Moscow, exhibited an instrument invented by himself called a pneumatoscope. It consists of two funnels inverted into each other, and two tubes provided with two end-pieces which the examining physician applies to his ears. The inverted funnel is covered with a light vibrating membrane of india-rubber, and is placed on the patient's mouth so that he breaths into it. According to the inventor his discovery will effect a revolution in thoracic examinations. He has used it very successfully in the diagnosis of chest affections. The sound-waves permit a more accurate differential diagnosis as different breath-tones were produced in the different diseases. The instrument can also be made use of in examining the breast.

TOPICS OF THE WEEK.

MEDICAL VIEW OF DRUNKENNESS.

A very interesting and important question was discussed the other evening at a meeting of the Police Surgeons' Association held at St. Thomas' Hospital, Mr. McIlwraith having called their attention to the difficulty of defining the condition indicated by the term "drunkenness," and the uncertainty as to a man's responsibility for actions committed while drunk. Strangely enough, the question was represented, even by an intelligent public writer, as a semi-comic one. It is far from comic, as no one knows better than a police surgeon. No one sees so much as he of the infinite complications which beset cases in which injury, exhaustion, and disease are mixed up with alcoholic poisoning in its various grades, so as sometimes to baffle all ordinary powers of diagnosis. But apart from these more difficult cases (which, however, are of very common occurrence), the everyday question for the police, "When is a man to be called drunk?" is one which becomes the more puzzling the more it is studied, and it is one which recent police legislation has made it incumbent on medical men to answer, since now everyone charged at a metropolitan police station with being "drunk and disorderly" has a right to summon a medical man to pronounce on his sobriety; and of course in all cases where there is any reason to believe that a person is seriously ill, whether he be thought to be drunk or no, medical aid is at once summoned to decide the question. There seems to be no particular reason for making the mere question of sobriety a medical one, since no definition of drunkenness appears to have been attempted by writers on medical jurisprudence; but, since it has been so ordered by the authorities, it behoves the surgeons called by the police to have as clear ideas on the subject as circumstances permit. To this end, as it seems to us, the recent discussion will very materially contribute, and we would call especial attention to the following very practical and useful observations of one of the divisional surgeons.

Dr. Forsyth said "the term 'drunk' was applied to any case in which alcohol was supposed to be a factor, and he thought it was necessary that they should differentiate between the various states. He objected to the indefinite expression being so easily used and so easily accepted, and urged that drunkenness should be treated under at least three aspects—excitement, loss of control, and coma, and that in all cases where persons were charged with being drunk the magistrate should require a qualifying definition to be given, and should also demand the reasons of those making the charge for attributing the condition of the prisoner to alcohol. He would also insist upon a man who was unconscious from drink being in all cases treated as being in as great danger as an apoplectic patient, for one was in as great danger as the other. If this were done, the heading 'Drunk or Dying' would disappear from the newspaper reports."

It is obviously in some such rational discrimination of the various conditions produced by alcohol, as is here indicated, that safety is to be found for the liberties and lives of persons who are, or who are suspected of being, "drunk," and we congratulate the police surgeons on having taken up so interesting and so important a subject, and of having treated it in a way so likely to result in benefit to the public. Other useful remarks on diagnosis were made during the discussion, such as the following by Mr. Phillips:

Dealing with the tests for drunkenness, he pointed out that "when the brain was poisoned by alcohol the pupils of both eyes were contracted alike, whereas in apoplexy it was noted in one or the other according as the effusion of blood affected one portion or another of the brain."

The Association is one capable of rendering much service to medical science, for many interesting points are copiously illustrated in police practice, which but rarely come before the general practitioner, and we are therefore glad to see that they are likely to be treated wisely and usefully by the newly formed Society.—Editorial, *Brit. Med. Jour.*

"COLLES' LAW."

One of the most important of all pathological facts is the transmission of syphilis from father to child without infection of the mother. Many men aware of this fact, and already victims of syphilis, hesitate to marry, almost entirely on account of their future offspring rather than their future wives. The extinction of syphilitic virus in well-fed patients is one reason why the disease is not often seen in its hereditary form in children among the prosperous classes of society, as Paget has had occasion to observe. The immunity of the mother is a question which deserves the closest investigation. According to a well-known law first laid down by Colles, and afterwards confirmed by Baumès, a mother who suckles her syphilitic child never thereby acquires syphilis. Diday, Jonathan Hutchinson, and others have established this law; and the exceptions are so few as almost to prove the rule, if not themselves "suspect." Dr. L. Merz has published notes of two exceptions in the *Archives de Tocologie* for January. He notes two cases where the law was strikingly confirmed. In one, the child of a syphilitic father was suckled for three months by its mother. As it then was covered with a specific eruption, the mother, believing her milk to be bad, employed a wet nurse. The latter became infected within six weeks, an indurated chancre appearing on one nipple. The mother remained healthy.

The first exception to Colles' law was noted by Tommasi-Crudeli in the *Instituzioni di Anatomia Patologica*, Turin, 1882.

In the second case, under the observation of Dr. L. Merz himself, the father was clearly syphilitic, and the mother free from venereal disease when a child was born. She suckled her infant, which soon showed unmistakable signs of congenital syphilis, mucous patches appearing on the lips. The mother as well as the child was submitted to specific treatment. Nevertheless a chancre formed on a fissure in the left nipple, and it was followed by roseola, mucous patches on the buccal mucous membrane, and alopecia. The supply of milk did not fail, and the mother was able to suckle the child. Both made a good recovery. Dr. Merz attempts to explain Colles' law and its exceptions. The law, he believes, is based on the fact that the mother is generally inoculated by her unborn child. The degree of inoculation may, however, vary. In most cases it is subtle, yet so thorough as to guarantee the mother both against that severe yet chronic train of symptoms which constitute syphilis, and against infection through her child at the breast. In some cases it is sufficiently severe to infect the mother during pregnancy, as has been repeatedly observed. Lastly the infection, instead of being severe or medium, may be insufficient. The mother is not protected against infection during lactation. This would account for such cases as that reported by Dr. Merz. Immunity through soundness of the nipple or healthiness of the infant's mouth could never explain Colles' law; for sore nipple is a very common disorder, the mouth is very often attacked in congenital syphilis, and in cases where the law is proven it is the nipple of the wet nurse that is usually the seat of the chancre.—*British Med. Journal.*

THE DURATION OF PREGNANCY.

The science of obstetrics is remarkable for the real complexity of some of its most essential problems, which all at first sight bear the stamp of simplicity. We find men of experience mistaking a gravid uterus for a tumor. Very recently several obstetrical veterans publicly declared at a meeting of a London society that the position of the placenta could be diagnosed by palpation, upon which some other obstetricians of equal authority declared that it was impossible to ascertain the position of the placenta by palpation. Another subject of high interest to men and women in general is the precise time within the menstrual cycle at which impregnation is most probable, some writers implying, or laying down, a physico-ethical law that impregnation is natural only at that precise time. Closely associated with this subject is another question, the duration of pregnancy. The theme is treated with ability by Dr. A. R. Graham in a short but important contribution to the new volume of the "St. Bartholomew's Hospital Reports." His figures tend to show that considerably more labors occur in fewer than in more than 280 days from the cessation of menstruation, but that over 300 days is not a rarely recorded period. He can find no direct confirmation of the view that the length of the pregnancy depends partly upon the sex of the fœtus. Dr. Graham's observations on the time in relation to the period at which pregnancy commonly commences, deserve the attention of obstetricians and practitioners.

STATE MEDICINE IN ITALY.

Important innovations have just taken effect in Italy for the official surveillance and control of medical institutions and health resorts. Every prefect throughout the peninsula has received from the Government a circular, in which he is authorized to permit the opening of any medico-chirurgical infirmary, maternity hospital, or hydropathic or thermal establishment, only on condition that his sanction has first been asked and obtained. The object of Government in enforcing this regulation is to secure a guarantee in which the public can have confidence that these institutions, whether already established or recently set on foot, correspond exactly to their avowed purpose and are justly chargeable with no defect in their hygienic condition or administration. Another salutary innovation is the practical examination and certifying of professed midwives in town and country. In any centre of population, rural or urban, in which these functionaries are found inadequate, in point of qualification or of number, to the service of the community, the Government shall at once, through the local sanitary authority, take steps to make good the defect.

MUSCULAR ATROPHY IN TABES DORSALIS.

Dejerine (*Revue de Médecine, 1889*) has made an elaborate study of those forms of muscular wasting which accompany tabes dorsalis. Wasting is most common in the hands and feet. The interossei are the most affected, and that gives either the foot or the hand a claw-like aspect. Atrophy of other muscles leads later to pes equinus or pes equino-varus. Contraction of the muscles may lead to a loss of the capability for passive movement. The muscular atrophy is almost always symmetrical on the two sides of the body. There are no changes in the anterior cornual cells, but the nerves to the muscles are degenerated. The degeneration is most marked nearest to the muscle, and gradually decreases in intensity as it is traced upwards; only occasionally does it reach as far as the anterior nerve roots. The muscular fibres are simply atrophied without any increase of interstitial tissue.

NEW METHOD OF EXAMINING NERVOUS TISSUES IN THE FRESH STATE.

Kronthal (*Neurologisches Centralblatt*, No. 2, 1890) has described a method for examining in a fresh state the microscopical characters of the central nervous system. A piece—about as big as a pin's head—of brain or spinal cord, as the case may be, should be taken quite fresh and placed upon the object-glass. It is then covered with a cover-glass and pressed out flat. A drop of a 0.5 per cent. solution of methyl blue is placed at the edge of the cover-glass, which is raised to let the stain run in. After from thirty seconds to a minute the superfluous stain is removed with blotting-paper. The cover-glass is then raised. The preparation is allowed to dry in the air; this takes five or ten minutes. A drop of Canada balsam is then added, and the preparation is ready for examination.—*British Medical Journal.*

AN ALBUM FOR PASTEUR.

The *Semaine Médicale* reports that a committee, composed of British and American notabilities, has been formed to offer an album to M. Pasteur. *The first page* of this album bears, in French, under the signature of the *Princess of Wales, the* following inscription: "To the Great Monsieur Pasteur, the Benefactor of the human race."

SOCIETY PROCEEDINGS.

The Illinois State Medical Society.

Fortieth Annual Meeting held in Chicago, Illinois, May 6, 7, and 8, 1890.

First Day—Morning Session.

The President, Dr. John Wright, of Clinton, in the Chair.

The Address of Welcome in behalf of the local profession was delivered by Dr. Norman Bridge, the response to which was made by Dr. T. J. Pitner, of Jacksonville.

Dr. C. W. Earl, of Chicago, then presented the report of the Committee of Arrangements, which was a very elaborate and attractive one.

Dr. J. M. G. Carter, of Waukegan, Chairman of the Committee on the Practice of Medicine, read a paper on

THE CAUSES AND TREATMENT OF PNEUMONIA,

in which he said the question of etiology has given rise to considerable discussion, and in many minds, to doubt. Six different varieties of bacteria had been mentioned by Bremmer as causing this disease, and others had been mentioned by later writers. The diplococcus of Fränkel had lately been shown to be present in most cases of pneumonia, especially croupous pneumonia. Wolff found it in 94 per cent. of the cases examined by him. Baumgarten thinks it is safe to assume a single sole cause for pneumonia. In Wolff's cases verification was established by cultures in more than half the cases. Monti examined the exuded fluid in twenty cases with but one negative result. Sometimes the Fränkel diplococcus was found in company with other bacteria. In these cases of Monti, Friedländer's micrococcus was not seen. Inoculation of fifty-nine rabbits, while universally successful, produced typical pneumonia only when the sputum was introduced into the trachea. Inoculation under the skin produced septicæmia; into the pleura, pleurisy; into the pericardium, pericarditis. Inoculation of the dura mater of a dog produced meningitis and lobar pneumonia. Fränkel, Foa, Whittaker and others have shown that the cause of pneumonia is not confined to the lungs, but invades other organs and tissues. Weichselbaum, Netter, Mircoli and others, have found the diplococcus after pneumonia in the ventricles of the brain, connective tissue of the mediastinum, the jugulum, above the clavicle, behind the œsophagus, in cavities about the nose, in the drum cavity and labyrinth of the ear. Tomasi, Golgi and others believe pneumonia to be caused sometimes by malarial poison, and this view corresponds with that of physicians in the southern part of Illinois and other malarial districts in the United States, where this form of the disease is called "winter fever."

Dr. Carter said it must be admitted that the cause of pneumonia is not fully settled by the profession. It has not been proved that the bacillus is not a concomitant rather than a cause of the disease.

In the present state of our knowledge, the following indications for the treatment are clear; 1. To equalize the circulation and diminish the determination of blood to the lungs. 2. To reduce the temperature of the body. 3. To sustain the patient's strength. 4. To assist the mucous membranes and organs of secretion and excretion in the performance of their functions. 5. To allay pain. Petresco says digitalis may check pneumonia at the outset. It is of value in æsthenic cases and when the heart is weak. Dr. Carter had not been favorably impressed with antipyrin, nor with antifebrin, and of late had not given them. Quinine is usually serviceable, and in malarial cases, essential, not only to reduce temperature, but also as a germicide and antiperiodic. Liebermeister advises blood-letting when there is œdema of the lungs, but Dr. Carter believes this may be avoided by blistering and the use of digitalis. Bruckner has reported over seventy cases treated with tartar emetic with great success.

Dr. Carter regretted that there is no well appointed laboratory for microscopical and physiological research in Chicago.

Dr. G. Frank Lydston, of Chicago, read a volunteer paper entitled

THE RELATION OF EVOLUTION TO THE PROBLEM OF INFECTIOUS DISEASES.

He said much of the medical progress for several decades past has consisted in the isolation and differentiation of contagious diseases, and their classification as specific entities. Dr. G. DeGorrequer Griffith, of London, England, published, several years ago, a theory of the unity of poison, which implied that certain contagious diseases were identical in origin, and that their poisons could be developed through certain changes, of a chemical character, occurring in organic matter. Thus he recognizes two forms of scarlatina: (1) That contracted from a scarlatina patient, or through the medium of something that has been in contact or in communication with him; (2) that which has generated *de novo* from blood poison, such as occurs in puerperal patients and in surgical cases (the "surgical scarlatina" of Paget), from deleterious matters absorbed or otherwise passed into the blood and thence into the tissues of the body; or from noxious drains and sewers, or the ingestion of pernicious articles of drink or food, such as tainted water, milk, cream, decomposing animal or vegetable substances. We have by evolution the spontaneous generation of so-called specific poisons. Dr. Lydston does not hold that the germs themselves are spontaneously developed, for while such an event is perhaps possible, it is as yet disputed by the best scientific authorities. He claims that the poison of disease may be developed by the evolution and acquirement of new and toxic properties by germs which were primarily innocuous.

The local venereal diseases, and in this category he included not only gonorrhœa and chancroid, but their congeners, such as herpes, balanitis, simple urethritis, etc., are among the best illustrations that we have of the poisons of infectious disease. The idea that gonorrhœa and chancroid are diseases which have been inseparable from the human species is certainly untenable. The origin of gonorrhœa and chancroid must necessarily be the same, if the evolutionary theory of their origin be correct.

The conditions which modify the results of the virus generated *de novo* in the human vagina are: (1) The age of the decomposition; (2) the degree of inflammation present; (3) the frequency of coitus; (4) the character of any semen or urethral discharges which may be deposited in the vagina; (5) the degree of cleanliness of the woman; (6) amount and degree of virulency of the virus deposited upon the absorbent surface in another individual; (7) the cleanliness, local and constitutional condition, habits and sexual hygiene of the recipient of the cultivated virus; (8) individual predisposition.

AFTERNOON SESSION.

DR. W. O. ENSIGN, of Rutland, as soon as the Society had reconvened, took the chair, and President Wright proceeded to deliver his annual address, in which he advised the formation of country and district medical societies, and the coöperation of physicians throughout the State.

DR. WRIGHT then attacked the liquor traffic, and said that the State Board of Health should revoke the certificate of every physician known to use alcoholic liquor as a beverage.

DR. J. H. WALLACE, of Monmouth, contributed a paper entitled

DIAGNOSIS OF TYPHOID FEVER,

in which he first protested against the common custom of calling all cases of continued fever typhoid. To be of practical importance to the patient our diagnosis must be based on the careful study and examination of the symptoms presented during life, and not on the phenomena observed after death. There are certain symptoms in common in all cases of typhoid fever. Thus, Dr. N. S. Davis says: "In classing all cases of continued fever under the head of typhoid and typhus physicians ignore some of the plainest facts of clinical experience, and place in the same group cases essentially different in causation, symptoms and pathological results. It remains, therefore, for us to detect minute differences."

The onset in typhoid fever, continued Dr. Wallace, is more gradual than that of any other fever, coming on insidiously and with premonitory symptoms. There is not that uniformity in the origin of typhoid fever which is found in intermittent, remittent and yellow fevers, where we can give name to the cause and study the law of its diffusion. Cases of typhoid are met with at all seasons of the year, in all climates and in all portions of the habitable globe, and amongst all varieties and nationalities of people. Two things are necessary to bring about a case of typhoid fever: (1) The poison; (2) the person liable to be poisoned. In all cases of suspicious typhoid fever an examination of the urine should be made, as Bright's disease, abscess of the kidneys, with blood poisoning, occasions a deceptive likeness to typhoid fever. Wilson says that the most marked changes in the secretions from the kidneys is found to be interstitial or diffuse nephritis, probably of septic origin. Dunn regards our present knowledge inadequate to the solution of the question as to the part played by microörganic ferments in the causation of the disease. One of Da Costa's diagnostic indications is the duration of the fever, he asserting that it lasts fully three weeks, and very frequently much longer.

The next thing in order was the report of the Special Committee on Diseases of Children.

DR. KATHARINE MILLER, of Lincoln, read a paper on

VAGINAL IRRITATION AS A CAUSE OF BLADDER SYMPTOMS IN YOUNG GIRLS.

More common even than enuresis among girls is a form of irritability of the bladder manifesting itself chiefly in an inability to retain the urine in a normal manner. It is often complained of in school-girls, who are obliged to leave the schoolroom even between intermissions in order to pass the urine, else the bladder, spasmodically contracting, empties itself in spite of every effort of restraint. Even with the promptest attention to its demands these girls are occasionally subjected to the mortification of wetting their clothing. Oftentimes no complaint is made of any other symptom than this annoying vesical irritability. The condition is more common at the age of 6 to 12 or 14 years, but may, if untreated, persist indefinitely. Examination reveals an extremely sensitive and hyperæmic condition about the vaginal orifice, and further investigation will show the extension of this tenderness within the vagina. Often this latter investigation can only be made by the use of an anæsthetic, not only because of the small size of the parts, but because of their extreme sensitiveness. Whatever the cause, the treatment must be directed to the removal of the vaginitis, when the bladder will recover its tone. Cleanliness must be enjoined. Not only is careful washing needful, but warm hip baths are of value. Soothing powders must be dusted on, the vulva being opened as far as possible, and children old enough to understand the aims of the procedure will generally submit to the application at night of a small pledget of absorbent cotton wet with a healing lotion containing pinus canadensis, hamamelis, carbolic acid or similar remedy, diluted with thin boiled starch. Where the urine is normal, rhus aromatica has proved a valuable aid in controlling the habit of irritability of the bladder and relieving the symptoms till the cause can be removed.

Dr. Robert Tilley, of Chicago, read a paper on

FOUR CASES OF DISEASE OF THE MASTOID,

in which he said that Barker, of London, in a study of abscesses of the brain, states that three-fourths of the abscesses of the brain are in the temporo-sphenoidal lobes, and that nine-tenths of subdural abscesses are found in a circle 1½ inch in diameter with its centre 1¼ inch behind and 1¼ inch above the centre of the bony auditory meatus. It might be further said, remarked Dr. Tilley, that nearly all these abscesses originate from some disturbance in some part of the external auditory meatus. As long as facts substantiate this statement, the study of mastoid affections will not cease to be interesting.

The Report of the Committee on Revision of the Constitution was called for, and was presented by the Chairman, Dr. Thomas M. McIlvaine, of Peoria. The report embraced several changes, among which was dividing the scientific work of the Society into three Sections, as follows: 1. Practice of medicine, materia medica and therapeutics. 2. Surgery, ophthalmology and otology, dermatology and venereal diseases. 3. Obstetrics, gynecology, and diseases of children.

The proposed changes and recommendations, after considerable discussion, were adopted section by section, and then as a whole.

The evening session was devoted to a discussion of the question, *What Shall We Do with our Insane?* Dr. E. Ingals, of Chicago, opened the subject by a brief paper. He was followed by Judge Prendergast, Dr. R. S. Dewey, Superintendent of the Kaukakee Insane Asylum, Dr. Corbus, of the State Board of Charities, and Dr. Sanger Brown, of Chicago.

(*To be concluded.*)

Arrested for Practicing Illegally.—A young physician, recently graduated from the Missouri Medical College, has been arrested in St. Louis for practicing medicine without having registered. The child whom he had been treating unfortunately died, and this led to his detection.

ASSOCIATION NEWS.

American Medical Association.—Report of the Librarian.

Mr. President:—I have the honor to present the Catalogue of Additions to the Library of the Association, made during the period extending from May 1, 1888, to June 15, 1889.

The Catalogue shows that 122 distinct titles have been added to the Library, exclusive of Transactions of Societies, Reports of Boards of Health, Medical Journals and College Announcements not previously received and catalogued. The total additions amount to about 272 volumes, so that the Library at present consists of about 7,770 volumes, representing 2,972 titles.

I would respectfully suggest that the subscription to the *Index Medicus* for the current year be continued, and that the sum of $10 be appropriated to that end. Respectfully submitted,

C. H. A. Kleinschmidt, M.D.,
Librarian.

3045 H Street, Washington, D. C.

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MISCELLANY.

NEW YORK PASTEUR INSTITUTE.—Dr. Paul Gibier, Director of the New York Pasteur Institute, submits the following statement for the month of April: During that month seven persons were treated at the Institute. In three of these cases hydrophobia was shown to have existed in the dogs by the inoculation of other animals with the nervous substance of the dogs who had bitten the patients. In the four other cases rabies was very probable, but the dogs had disappeared, or their carcasses had been thrown away instead of being sent to the Institute.[1] The patients were: Three from New Jersey, two from Illinois, one from Massachusetts, and one from Texas. The above patients are at present all enjoying good health, as also the thirteen patients inoculated during the month of March.

THE MCLEAN COUNTY (ILL.) MEDICAL SOCIETY met on the 5th inst., the President, Dr. F. J. Parkhurst, in the chair. Dr. Godfrey reported a case of necrosis of the superior maxillary bone, with specimen of the same. Dr. F. J. Parkhurst brought before the Society a man with necrosis of the skull in which the dura mater had been exposed for four years. Dr. Galloway presented a specimen of ovarian tumor. A large number of the members were present. Dr. F. J. Parkhurst gave his inaugural address, which the Society voted to have published in the *Pantagraph*. Dr. Little was tendered a vote of thanks for his excellent paper on the "Recent Epidemic Influenza." Much time was taken with the discussion of this paper, so that Dr. Maumee's essay was postponed to the next meeting. The Society adjourned to meet the first Monday in June.

HEALTH IN MICHIGAN.—For the month of April, 1890, compared with the preceding month, the reports indicate that puerperal fever, typho-malarial fever, inflammation of brain, membranous croup, diphtheria, cholera morbus and scarlet fever increased, and that pleuritis, typhoid fever and influenza decreased in prevalence.

Compared with the preceding month the temperature was much higher, the absolute humidity was more, the relative humidity was less, the day ozone and the night ozone were more.

Compared with the average for the month of April in the four years 1886–1889, cerebro-spinal meningitis, membranous croup, measles and inflammation of kidney were more prevalent, and typho-malarial fever, typhoid fever, cholera morbus, cholera infantum and intermittent fever were less prevalent in April, 1890.

For the month of April, 1890, compared with the average of corresponding months in the four years 1886–1889, the temperature was slightly higher, the absolute humidity and the relative humidity were slightly less, the day ozone was less and the night ozone was more.

Including reports by regular observers and others, diphtheria was reported present in Michigan, in the month of April, 1890, at 53 places, scarlet fever at 54 places, typhoid fever at 17 places, and measles at 96 places.

Reports from all sources show diphtheria reported at 8 places less, scarlet fever at 16 places less, typhoid fever at 8 places less, and measles at 15 places less in the month of April, 1890, than in the preceding month.

Official List of Changes in the Stations and Duties of Officers Serving in the Medical Department, U. S. Army, from May 2, 1890, to May 8, 1890.

By direction of the Secretary of War, First Lieut. Nathan S. Jarvis, Asst. Surgeon, is relieved from duty at Camp Wade, Kingfisher, Ind. Ter., to take effect on the expiration of his present leave of absence, and will report in person to the commanding officer, Ft. Verde, Ariz., for duty at that station. Par. 12, S. O. 102, A. G. O., May 1, 1890.

Major Richard S. Vickery, Surgeon, is granted leave of absence for twenty-one days, by direction of the Secretary of War. Par. 17, S. O. 103, A. G. O., May 2, 1890.

Official List of Changes in the Medical Corps of the U. S. Navy for the Week Ending May 10, 1890.

P. A. Surgeon E. H. Green, ordered to the receiving ship "Dale," Washington Navy Yard.

P. A. Surgeon Robert Whiting, detached from the "Dale" and to the nautical school ship "St. Mary's."

P. A. Surgeon H. M. Whitaker, detached from the "St. Mary's" and resigned, to take effect November 5, 1890.

Surgeon J. W. Ross, ordered to the Navy Yard, Pensacola, Fla.

Surgeon J. M. Flint, appointed a delegate to represent the Medical Department of the Navy at the Pharmacopœia Convention to be held in Washington May 7.

Medical Director R. C. Dean and Medical Inspector Theoron Woolverton, appointed delegates to the American Medical Association convention to be held at Nashville, Tenn., May 20, 1890.

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[1] At the last moment we are informed that another person who was bitten by one of these dogs died with hydrophobia. This person had not been treated at the Institute.

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ADDRESSES.

THE PRESIDENT'S ADDRESS.

Delivered at the Forty-first Annual Meeting of the American Medical Association, Nashville, Tenn., May 20, 1890.

BY E. M. MOORE, M.D.,
OF ROCHESTER, N. Y.

Another year has brought the Association to a renewal of its labors. It now stands, and will stand, as the exponent of the profession in its varied relations to the community and to its members. It will be immovable to adverse criticisms, as long as it upholds the traditions of the profession which themselves are the outcome of the highest sentiments of humanity. Generous and liberal it hopes for the recognition of its high standard by all.

It is not forgetful of the fact that the grand army enlisted under the banners of the medical profession has always been infested by the bummer and guerrilla in it march down the ages. As time goes on new duties arise that are the natural outgrowth of the conditions that surround us. A survey of the field of action imposed by our proper relations to the communities we live amongst, and by those incident to our associate character to the nation at large, impresses me with a deep sense of our duty in urging forward the active exercise of those measures which science has thus far indicated for the promotion of hygeine. It has too long been the fact that this whole topic has been developed by the medical philosopher, and not until recently by any one who has a direct professional interest in its study.

Mankind expected information and aid from those that it failed to compensate. Perhaps the most profound thinker upon the organization of government, that the last hundred years has produced among the English speaking people was Jeremy Bentham. His works adorn the shelves of good public libraries, and are seldom disturbed in their resting places. The world has reached the goal that he indicated as the most important one for mankind to reach: "The greatest happiness for the greatest number."

To enforce this doctrine upon the minds of his readers, which he did with great minuteness of detail, by arguments of the most elaborate kind, seems to an American audience as unnecessary, as to prove that two and two make four. But while his thoughts were directed to the consideration of right conduct in all conditions of society, his words were especially addressed to his own people. I think few persons have the slightest knowledge of Bentham's labors, except through the contemptuous sneers of the aristocratic element of society, which wielded the powers of the government under which he lived. His views at the time of his writing incorporated in the structure of our own nationality, have become the aim of all civilized people. After a life spent in the most searching enquiries into the wants of our common humanity, the whole was brought to a focus upon the details as well as the generalization of a constitutional code. This minutely expanded and spread over the pages of a large octavo volume, in order to give the most careful attention to the detail, and yet technically concise, fills one with amazement at the intellectual effort. It was the life work of a great man. The executive head of this proposed government, was a prime minister as the regulator of the functionaries below him. These were numerous. The foreign affairs minister appears very naturally. The treasury minister as well. The army minister and the navy minister are all treated of with the most minute detail. On a par with these is the health minister.

What has been the progress of opinion on this subject of hygeine? Can we feel that it has received a tithe of the consideration that it deserves. Says an observant foreigner, "the Americans are bright and intelligent people, but they care nothing for health; they lavish it, and when it is gone, they lavish money on pills." What a truthful sketch of our lives. We are here to-day because we are therapeutists and not because we are hygeinists. Nevertheless we have no cause for discouragement. Great movements are slow. The national conduct is but the reflex of the individual behavior. The average citizen accepts health as he does the air he breathes as his natural right. He joins in the race for wealth or place, as if to determine the scientific problem of the survival of the fittest, gibes the doctor and "throws physic to the dogs." Suddenly he becomes aware that the pace is killing. Then he begs for pills. Then comes the search for a panacea or catholocon. To set his house in order and pursue the reasonable aims of life in a reasonable manner, is the method of a rare man. What has been the conduct of the aggregate man? Precisely the same. Contemptuous of precaution when the pestilence came, he has, until lately, known little else than a resort to the semi-religious Oriental forty days, his quarantine. That we are emerging from this state, and that precautions are sometimes employed is admitted. But that the legislative and executive efforts keeps pace with the progress of science I am quite sure is not true. Still at the present time it is accelerating. It must ever be the care of the profession to promote and guard the movement. The conduct of the matters appertaining to hygeine must ever be under its direction. The understanding that informs the executive, must be of the highest order and best training. The interests at stake are enormous, not merely to health and life, which of course are paramount, but also to those that concern the property of mankind.

The tearing off the shackles that impeded commerce and human movement in passed time, is due to medical science as applied to hygeine, and this long before the amazing discoveries in bacteriology of to-day, which have given a scientific demonstration of the correctness of methods already formulated, the result of experience and observation.

The history of legislation confirms these views, and yet its present status is full of encouragement. I have studied the work of Congress as shown in the laws from its inception to the present time. I must confess not a very laborious undertaking. The first Act passed by Congress with reference to health matters was in 1796, February 26. It directed the President of the United States to assist the State Government in the execution of the State laws upon the subject of quarantine by his commands to all officers of ports on the coast and commanders of revenue cutters. This short Act was repealed by another and more comprehensive one passed February 26, 1799. This Act relieved the President of any direct attention to matters of quarantine, by placing its care in the hands of the Secretary of the Treasury. This was obviously done because the question of revenue was involved in unloading and disinfecting ships. The Act, however, first reaffirms the relations of the United States Government to that of the States.

"And the said Secretary may be, and he is hereby authorized, when in conformity to such quarantine and health laws, shall require it, and in respect to vessels which shall be subject thereto, to prolong the term limited for the entry of the same and the report or entry of the cargoes, and to vary or dispense with any other regulations applicable to such report or entry. Provided that nothing herein shall enable any State to collect a duty of tonnage or import without the consent of the Congress of the United States thereto. And provided that no part of the cargo of any vessel shall in any case be taken out or unladen therefrom otherwise than by law allowed or according to the regulations hereinafter established.

Section 2 of the Act provides for the care of the vessel and the cargo when the health laws declare the necessity of unloading and removal to some place other than usual.

All this to be under the care of the Secretary of the Treasury, who exercises complete control of said cargoes until the revenues accruing have been paid, and the health authorities have released them.

Section 3 directs the Secretary of the Treasury to provide proper storehouses at proper sites for the care of the property according to the requirements of the health laws of the State, and at such convenient place or places therein as the safety of the public revenue may demand.

Section 4 provides for the safety of the officers connected with the revenue service, by allowing them to remove their offices to a safer position if an epidemic should prevail.

Section 5 provides for the adjournment of any United States court, and also for the removal of prisoners to another place of confinement at the expense of the United States during an epidemic.

Section 6 gives power to the President of the United States to remove any or all public officers if necessary.

Thus early was initiated a policy which has prevailed to the present time and which has been watched with great care and jealousy. The rights of a State have been asserted and maintained with the endorsement of the highest tribunal, not without some friction, the natural treatment of our dual government. No further legislation appears on the statute books until 1832, when a cautious expenditure is made to aid in enforcing the law by providing for more revenue cutters if necessary, but the force of the Act terminated within a year. From this time there is complete silence on health legislation until 1844, when an Act was passed providing for a special building at Lazaretto Point, for the purpose of quarantine. But shortly after this the country was visited by an epidemic of cholera. The previous one occurring in 1832, and far more severe, which struck fear into the heart of the nation, depopulating cities, was left to the management of the local authorities. No health organization worthy the name existed at any point. Indeed the natural guardians of the people, the members of the medical profession, were appalled and misdirected by erroneous theories of the disease. Two more epidemics supervened, and the transmission of cholera by persons to localities was no longer to be questioned. A vague atmospheric cause that no one could escape did not explain the phenomena of the disease. Accordingly we find the nation becoming aroused, and on May 26, 1866, a joint resolution was passed by Congress which declares "that the Secretary of the Treasury be and he is hereby, authorized to make and carry into effect such order and regulations of quarantine as in his opinion may be deemed necessary and proper to aid State or municipal authorities to guard against the introduction of cholera into the ports of the United States. And the Secretary of the Treasury is further authorized to direct the revenue officers and the officers commanding revenue cutters to aid in the execution of such quarantine, and the execution of the health laws of the States respectively, in such a manner as may seem to him necessary. And such an amount of money as may be necessary to carry into effect this joint resolution, is hereby appropriated out of any money in the Treasury not otherwise appropriated; provided, the authority hereby granted shall expire on the first Monday of January, Anno Domini 1867."

Here again we have the Secretary of the Treasury circumscribed in his action by the limitation of time, and that a short one. Special attention in health matters is again relaxed for ten years, the ordinary machinery of government being entrusted simply with the duties of quarantine, but in 1876 attention to the wants of the District of Columbia was given by an Act that provides for the salaries of the health officer and his assistants and allows ten thousand dollars in the event of an epidemic occurring. During the next year there were further modifications and a larger sum of money granted. From this time forward appropriations for the District are made yearly and in varying amounts.

Another great step in the movement of hygiene was an Act passed April, 1878, directing the Surgeon-General of the Marine-Hospital Service to make rules for the consuls in foreign ports with reference to certificates declaring the condition of the vessels and cargoes bound for ports in the United States. Then follows an Act showing further attention to details by changing the organization of the health board of the District of Columbia, it being abolished, and its powers transferred to the Commissioners of the District, the salary of the health officer being fixed at three thousand dollars. But before the close of the year another great movement in advance was made in legislation by an appropriation for paying the necessary expenses incurred in investigating the origin and causes of epidemic diseases in the United States. But in the meantime another great movement in the study of hygiene had been effected by the organization of State boards of health. The local boards existed with ample powers, but total neglect of duties. In the large cities, however, there were able men whose whole time was given to the work and sufficiently compensated, to bring the attention of the communities they lived in to the vast defect of municipal life.

Knowledge was expanding, and that most remarkable and valuable of all the engines for the promotion of hygiene, the State board of health, came into existence. This was not without great labor and heart-sickening delay. The best informed could see the great good, but the watchful conservative was stirred to the utmost, and regarded with horror the vast powers which the health organization must exercise directly or indirectly.

It has ever been difficult to make the citizen, in the enjoyment of the great freedom of motion of which the English and American people are so jealous, to submit to military control in time of peace, and a control which reaches into his special domain, his conventional castle. But the local boards in the smaller communities were ever asleep at their posts until some fearful invasion of small-pox roused them to action. Then they, perhaps for the first time, studied the statutes of their State government to learn that their power was military, and the citizen, pale with fear, submitted to the restraint necessary for his safety. Then, in the rural district, he would assist in stretching the fence across the road to enforce the necessary quarantine. But as soon as the great danger was passed he would lapse into freedom, and perhaps jeer at vaccination.

But the conditions for controlling the invasion of pestilence are those of military operation. Power must be autocratic—an enemy is to be resisted, pursued, destroyed. Our external defenses must be constantly manned. Vigilance must never be relaxed. For the protection of society a military organization is in constant existence; it may be a sleeping lion, but it is a lion still. Thus the cholera and yellow fever must be met. The invading hordes are invisible, but they come like the genii of Oriental stories. Panic sometimes attacks the best disciplined armies in an unaccountable manner. But when pestilence strikes a city the boldest flee.

To the credit of our age, even the superstitious do not bow their heads to the mysterious ways of Providence, but rise to the effort to obey his laws. Science searches out the enemy and devises the attack. But the machinery of defense must be in constant order. To bring about this result the State board of health came into existence. As has already been said, the development of this body was slow.

The power conferred on it in different States has not been precisely the same. In most of them it has no power at all. They are merely advisory bodies. The power is to be exercised by the Governor of the State who is expected to receive their instructions. Even at this time there are some States that have not erected this organization. But where once created they have remained. The jealousy of the military power has passed away, for it has not been used as a means of oppression and the benefits flowing from it have been so great that not one board has been destroyed. They have furnished hygienists for the nation. They have brought the local boards to the performance of their duties in a greater degree. I believe their life is secure and great expectations may be entertained of their future usefulness. It is idle to suppose that the executive of any State has the knowledge which can direct him in the right path of action. This must be the outgrowth of science ever advancing. But nations are naturally fearful of professional dictation. This has been shown by the fear of military men in control of free States. The success of the State boards very naturally pointed to the erection of the National board. It seemed to those most familiar with their workings, that such an institution would fill the measure necessary for the wants of the nation. It was the reflex action of our governmental structure. It was suggested that a permanent organization should be representative of the State boards and thus be in touch with the people. Such opinions were, however, speculative and looked to the future. When these views were agitated, the scourge of pestilence was present. Action could not be delayed, and a board thought to be representative of large interests should be formed at once. But the Act itself provided for the future by calling on those supposed to be best able to make a competent selection. It was found that the plan at first adopted, met the conditions required and it was believed by those selected to judge, to be the best one after its first year of trial.

On March 3, 1879, an Act was passed to prevent the introduction of infectious or contagious diseases into the United States and establish a National Board of Health. This is such an important part of our history that I quote it entire.

Be it enacted, by the Senate and House of Representatives of the United States of America in Congress assembled, that there shall be established a National Board of Health to consist of seven members to be appointed by the President by and with the advice and consent of the Senate, not more than one of whom shall be appointed from any one State, whose compensation during the time when actually engaged in the performance of their duties under this Act, shall be ten dollars per diem each, and reasonable expenses, and of one medical officer of the army, one medical officer of the navy, one medical officer of the marine-hospital service, and one officer from the department of justice, to be detailed by the Secretaries of the several departments, and the Attorney-General respectively, and the officers so detailed shall receive no compensation. Said board shall meet in Washington within twenty days after the passage of this Act, and in Washington or elsewhere from time to time upon notice from the president of the board who is to be chosen by the members thereof or upon its own adjournment, and shall frame all rules and regulations authorized or required by this Act, and shall make or cause to be made such an examination and investigation at any place or places within the United States, or at a foreign port, as they may deem best to aid in the execution of this Act and the promotion of its objects.

Section 2. The duties of the National Board of Health shall be to obtain information upon matters affecting the public health, to advise the several departments of the Government, the executives of the several States, and the Commissioners of the District of Columbia, on all questions submitted by them, or whenever, in the opinion of the Board, such advice may tend to the preservation and improvement of the public health.

Section 3. That the Board of Health, with the assistance of the Academy of Science, which is hereby requested and directed to coöperate with it for that purpose, shall report to Congress at its next session, a full statement of its transactions, together with a plan for a National public health organization, which plan shall be prepared after consultation with the principal sanitary organizations, and the sanitarians of the several States of the United States, special attention being given to the subject of quarantine, both maritime and inland, and especially as to regulations which should be established between State and local systems of quarantine, and a National quarantine system.

Section 4. The sum of fifty thousand dollars, or so much thereof as may be necessary, is hereby appropriated to pay the salaries and expenses of said Board, and to carry out the purposes of this Act.

In April of the same year $200,000 was appropriated for the construction of a refrigerating ship for the purpose of disinfecting ships and cargoes, but on June 22 of the same year it was found necessary to state the powers of the National Board of Health. This was done by an Act elaborately defining its functions. These it is unnecessary to recapitulate, the vital part of the Bill is contained in the third section, which directs the "National Board of Health to coöperate with State and municipal boards of health in the enforcement and execution of the rules and regulations as set forth, to prevent the introduction of contagious or infectious diseases into the United States from foreign countries and into one State from another and at such ports and places within the United States, where quarantine regulations exist, under the authority of the State, which in the opinion of the National Board are not sufficient to prevent the introduction of such diseases into the United States or into one State from another, the National Board of Health shall report the fact to the President of the United States who shall if in his judgment it is necessary and proper order such board of health to make such additional rules and regulations, as are necessary to prevent the introduction of such diseases into the United States from foreign countries or into one State from another which when so made and approved by the president, shall be promulgated by the National Board of Health and enforced by the sanitary authorities of the States where the State authorities will undertake to execute and enforce them; but if the State authorities shall fail or refuse to enforce such rules and regulations the President may detail an officer or appoint a proper person for that purpose."

To carry out the functions imposed upon it the sum of five hundred thousand dollars was appropriated. Thus it would seem that the National board was constructed upon the model of the State board by its being directed to report to the President instead of the Secretary of the Treasury.

The National Board of Health has a splendid record. Brought into being by the presence of an overwhelming calamity with doubts and misgivings in regard to its real status and the fear that the Constitution would not justify its action, it achieved a success that was the most remarkable in the history of hygiene. It found Memphis a pest house and initiated the measures that made it a healthy and flourishing city. It has seldom fallen to the lot of any organization to so instantly and completely justify its existence. The report of the National Board of Health is one of the most elaborate and able productions that has been put forth by any body of men as far as my reading goes. Although a decade has now passed by, a period of great movement in sanitary matters, it is fresh and readable.

This would be expected from the array of names making the report. It undertook the mastery of the whole subject of sanitation, not merely the war against epidemic diseases. It undertook to detect the adulteration of foods and drugs. It investigated the subjects of sewerage and drainage and ventilation.

The most active and prominent of all the *dramatis personæ* among the functionaries of health under the direct rule of the National government is the organization known as the Marine-Hospital Service. This was founded in 1798, as an insurance against the calamities of sickness on the part of the employés of the commercial marine of the country. The nature of a sailor's avocation places him at the mercy of strangers, when sickness comes upon him, and a provision against that terrible misfortune is one of primary necessity. The functions of this Service have been maintained, and extended for a period nearly contemporaneous with the formation of our government. One cannot read the list of the houses of refuge which are directly constructed and managed by this Service or indirectly obtained by employing through contract the use of hospitals under the care of others, without a strong feeling of admiration for the care with which the Service is administrated. At every point of our immense shore line there seems to be provision for the sailors' necessities. This Service was placed under the supervision of the Secretary of the Treasury. The collection of the custom dues was naturally the function of this Secretary. Thus was established a closer relation between this officer and the Marine-Hospital Service. There is certainly nothing in the organization of this Service which calls for its employment, for making rules for the conduct of quarantine. But the Secretary of the Treasury when charged with certain duties in this connection has upon him the necessity of employing agents competent to perform these duties.

He finds willing and competent agents at his hand in the functionaries of an institution organized for quite a different purpose, men whose education and training already fit them for the new duties imposed upon them. Their execution of those duties has commanded the confidence of Congress, which has added, from time to time, new ones to be performed by them. The sailor himself, the most exposed of all the citizens of the Republic to the dangers of epidemics, would naturally bring the professional man who had care of him into close contact with and study of these diseases. Hence it is easy to understand how, as has been happily said, this department has, by a sort of evolution, become an important sub-department of the Government. The late Dr. John M. Woodworth took the most lively interest in this development, and contributed by his advice to the construction of rules and regulations bearing on the relations of our Government to others in the matter of quarantine.

As a specimen of such legislation we may note the following instructions:

> To officers of the Customs Revenue, Medical Officers of the Marine-Hospital Service, and others whom it may concern:
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> The Act approved April 29, 1878, entitled, "An Act to prevent the introduction of contagious or infectious diseases into the United States," provides that no vessel coming from a foreign port or country where any contagious or infectious disease exists, nor any vessel conveying infected merchandise, shall enter any port of the United States or pass the boundary line between the United States and any foreign country, except in such manner as may be prescribed under said Act.
>
> Attention has been called to the prevalence of a dangerous epidemic disease in Southern Russia, known as the plague, and its extremely virulent and contagious character, as manifested in the late outbreak, leaves no doubt that it is similar to, if not identical with, the "plague" which devastated the Old World in past centuries.
>
> Because, therefore, of the danger which attaches to rags, furs, etc., as carriers of infection, the following regulations are framed, under the direction of the Secretary of the Treasury, and subject to the approval of the President, for the protection of the health of the people of the United States against the danger referred to:
>
> Until further orders, no vessel from any port of the Black Sea, or the Sea of Azof, conveying any rags, furs, skins, hair, feathers, boxed or bailed clothing or bedding, or any similar articles liable to convey infection, nor any vessel from any port of the Mediterranean or Red Seas having on board such articles coming from Southern Russia. shall enter any port of the United States until such articles shall have been removed from the vessel to open lighters, or to some isolated locality, and the vessel disinfected and thoroughly ventilated; and the suspected articles shall be disinfected, either by chemical agents and exposure to free currents of air, or by burning, as

shall be determined in each case by the Surgeon-General of the Marine-Hospital Service.

The recognition of the rights of the States is found in the statement that "The certificate of the State or municipal quarantine officer of health may be accepted as satisfactory evidence of compliance with these regulations on the part of the vessel."

It is not my purpose to define in detail the action of the Marine-Hospital Service. But I may observe that the duties incident to quarantine have been increased and rendered more accurate as time has brought more knowledge. I might note the imposition upon the consuls at foreign ports, of the duties of inspection and report upon the condition of the vessel, cargo and passengers. The *suggestion of the law requiring* such action comes from the present Surgeon-General of the Marine-Hospital Service, and upon him was placed the duty of constructing the rules. When the National Board of Health came into existence, the duties incident to the enforcement of quarantine and other matters outside of those that appertained to the organization of the Marine-Hospital Service, were transferred to its jurisdiction. But it found these rules already at its hand and they were accordingly adopted. To the active energy of Dr. J. B. Hamilton we owe very largely the evolution of good methods in dealing with the matters of quarantine. One has only to read the circulars put forth to the officers scattered along our enormous coast line, and those addressed to our consuls, to recognize the careful scrutiny he has made of the situation. It is impossible in the hour at my disposal to quote from these circulars. I could only cite one as a specimen of many. But I cannot pass away from what I should say of the Service without calling attention to the land quarantine, which may be considered as a new feature of the work. During periods of panic caused by epidemics, the first movement is flight from the suspected. But when the fugitive draws nigh an uninfected region, he is warned off at the peril of his life, hence the natural origin of the shot-gun quarantine. Townships invaded by small-pox are at times thus treated. When yellow fever fastened on a locality, such a place was at once brought under the shot-gun. This barbarous method affords no relief to the stricken, and is not only disastrous to life, but destructive to vast commercial interests.

To modify this and yet give security to those beyond the seat of pestilence, was the purpose of the land quarantine.

To guard the unaffected and yet allow the exposed safe conduct when they would not infect others, was the basis of action. To carry out such a plan would of course annoy those that came under the order of such regulations as were necessary; but this would be true of any quarantine whatsoever. If properly ordered, the method is not the shot-gun policy but a substitute for it. Refuge camps, as has been said by Dr. Hamilton, are no new invention, but a quarantine camp along an inland route which provides for the detention of those flying from districts in which they have been exposed to contagious diseases in order that disinfection may be practiced upon their effects during the incubation of the disease, is a new movement in the evolution of the methods necessary to arrest epidemics. Such was Camp Perry.

When a case of yellow fever appeared among the detained, it was at once removed to the improvised hospital. That loud complaints should be made of this land quarantine, was to be expected, but time justified the plan, for in the end it was found that no place became infected by those who were filtered through its alembic. Success must be the test. Applied science must make the method. Such a place was Camp Perry. Placed almost on the line that separates Georgia from Florida, it was prepared to execute one of the recognized functions of the National Government in the regulation of commerce between the States, which is not merely the transportation of goods over a line. It takes in the relations of men. One cannot read the description by Dr. Hutton, in the Annual Report of the Marine-Hospital Service, without being convinced of the excellent arrangement of the extemporized building. A little confusion at first was soon replaced by order and military regularity. As before remarked, this scores another step in the rapid progress of development going on in sanitary matters.

There is another field of sanitary action that should be noticed in this place.

In the year 1884, the consideration of animal diseases was transferred from the care of the Secretary of the Treasury to the Commissioner of Agriculture. This change would seem to be natural. One can hardly conceive of a more uncongenial combination than a bureau of finance and one of scientific investigation. As a result of this change a bureau of animal industry was created for the study and management of contagious diseases in animals. About fifty years ago the disease known as pleuro-pneumonia appeared among cattle in this country, but it was confined to a few localities. But as the cattle industry assumed the enormous proportions that it has at the present time, the disease began to show itself in the West about ten years since.

If allowed to spread it would be difficult to measure the injury to the material interests of the Nation, taking no account of the sanitary question in its relations to human life. The activity of the Commissioner of Agriculture has been very successful in arresting the spread of the disease, especially in the West, by far the most important field for his labor. He has had more difficulty in dealing with the subject in and near the cities in the East, more jealousy of official interference, more numerous owners of small collections, rendering the evasion of the police regulations more easy. But the results are gratifying on the whole.

Here we find our dual government capable of executing admirable work, while it is evident that the State rights can ever be a check on unwarranted action. But the general government is capable of protecting communicating States suffering from the unfriendly acts of their neighbors. The regulations of commerce at the border is a powerful engine of control in all these relations. A State refusing acquiescence in proper sanitary laws, soon finds its interest impaired by the quarantine that can be placed on it.

Again, the States themselves have established quarantine against neighboring ones where there was known to be pleuro-pneumonia among their cattle, thus reducing their ability to find a market for those that were sound. The intervention of the general government, by their inspection and disinfection, was sufficient to cause the withdrawal of this shot-gun policy.

The principle of coöperation with the State authorities was the one that became successful. The diseases being epidemic, are a matter of concern for the whole Nation.

We cannot escape the duty of destroying an invasion. If the attack is severe over any considerable surface of territory it paralyzes all local effort by the ruin it brings upon so many individuals. If it were like the destruction by a tornado or conflagration, it would not call for legislative action. The remedy, if needed, would flow from benevolence. But it does not stop here. The whole are endangered. Political boundaries do not exist for it. The invasion must be resisted. In the year 1884, money was appropriated for the bureau of animal industry to investigate and arrest, as far as possible, the extension of pleuro-pneumonia. But this did not grant to the commission the privilege of purchasing the diseased animals and then destroying them. The law as first established did not authorize the slaughter of affected animals, but only gave the right to establish quarantine, such as might be necessary to prevent the spread of contagious diseases from one State or Territory to another. It was found impossible to maintain a sufficient quarantine under the law. The disease is one that often assumes a mild and chronic form, with symptoms so moderate as to make diagnoses uncertain, and thus cases would exist capable of conveying the infection. The experience of European nations had already settled the question of the only sure method of procedure. This consists in the slaughter not only of the diseased animals, but those herding with them. If there had been an exposure, there can be no assurance that one such, when removed to other associations, may not afterwards have the disease developed. The continuance of the quarantine during the usual period of incubation is hardly a certain assurance of immunity. The exportation of animals to Great Britain was so restricted that no cattle, sheep or swine could be sent from this country except for slaughter at the landing place. Benefits of time after a voyage were thus cut off, to the great detriment of the trade.

The exportation of sheep declined from 108,652 in 1879, to 32,510 in 1884; and that of swine from 25,033 in 1879, to 4 in 1884. But the restrictions to commerce in animals were not confined to foreign lands. Our own States set bounds on the traffic. While it is impossible for any State to levy a tax or impose any form of custom duty or other methods of interfering with commerce, the health laws allow complete non-intercourse in the presence of epidemic diseases.

Quarantine can be set up even in the townships. The Commissioner of Agriculture has been able to happily supplant these absolute restrictions by better methods. Nothing, however, could be done efficiently without the consent of the States. In most of them the laws were imperfect. In the shadow of a great danger these were amended so as to coöperate with the National authorities. But it was found, as soon as an attempt was made to arrest a disease, that private efforts were sufficient to neutralize all efforts, unless a fund large enough to pay for all animals to be slaughtered, was appropriated. This the State failed to do. Attempts have been made in localities to get money by subscription to destroy some herds, from the owners of neighboring ones which were free from disease. But this failed. Congress was now asked for more money and the power to use it as the Commissioner thought best.

Accordingly, an Act was passed in 1866 placing $500,000 in the hands of the Commissioner, who might use "any part of this sum in the purchase and destruction of any diseased or exposed animals, and the quarantine of the same." Immediately after the Bill became a law, rules and regulations were drawn up and submitted to the Governors of States for their approval. Thirty-one States adopted these, and in the year 1887 the work was in full play. The magnitude of this work can be appreciated when it is learned that from August, 1886, to October 31, 1887, the inspectors of the bureau carefully examined 15,387 herds containing 117,480 animals, in districts where the disease was supposed to exist. Among these were found 798 herds, containing 10,766 animals, of which 2,235 were affected with pleuro-pneumonia. Besides these there were 2,873 head of cattle in the distillery stables of Chicago, nearly one-half of which were diseased. This work was nearly all done in the West. During the succeeding year the inspection was extended to the East, including the great cities of New York and Philadelphia. A more thorough agreement having been reached between the States and National authorities, there were inspected during the time between January 1, 1888, and November 30 of the same year, 35,451 herds, containing 304,698 head of cattle. Of these 183,257 were tagged and registered upon the books of the office. There have been 41,361 post-mortem examinations made, and 3,380 carcasses were found to be affected with pleuro-pneumonia. The quarantine stations have been carefully guarded, and it is believed that no importation of diseased cattle has occurred. But there are many other diseases of a contagious character among other domestic animals. The most important, from which losses in money are to be counted in millions of dollars, are those of swine, notably those of hog cholera and the swine plague. In the study of these the laboratory work of the Department of Agriculture has been great and expensive.

The bacilli that are connected with these fatal diseases have been studied with great care. Acurate results have been obtained in consequence of the ability to use the pure cultures to produce the disease in animals previously healthy. Thus two distinct diseases have been diagnosticated; one affecting the bowels alone, the hog cholera, and the other having its chief seat in the lungs, and secondarily in the bowels. It has also been shown that the bacilli of hog cholera will retain its vitality in water for four months, and in the soil for two or three. Such bacteriological researches reflect great credit upon the bureau. Its studies extend to other animals, but the sphere is more limited.

It must ever be borne in mind that the organization of State defences and the execution of the methods necessary to eradicate the causes of infective or contagious diseases, are military in character. We use a common eupheuism when we call all these measures police regulations, but the proper name is war. We have an insidious and sanguinary foe to meet. The measures to be taken must be prompt and thorough. A health board may be a good council of war, but the executive officer is the important man. How important that he should be competent! But to this he must be trained.

The force to carry on the work of sanitation has a strict analogy with the structure of an army. The medical officers must have under them inspectors of various degrees of training, as well as men to fulfil still minor functions. All this has been happily indicated by the head of the Marine-Hospital Service. His plan must become the germ of the future management of the sanitary service. I do not apprehend difficulties to arise from political appointments. The methods now used cannot well be ignored. Indeed, these appointments must have the character of commissions, as in other military formations. Along with such *personnel* will be developed the machinery of war. We do not need Krupp or dynamite guns. But we do need trains of cars which will carry the most elaborate arrangement for fumigation and disinfection, as well as dwellings for the detained, ready to be transported with all the conveniences of living.

At the present time the government is building expensive vessels, but not expensive in a military sense, arranged with apparatus for disinfecting the contents of a vessel alongside of which it can be moored. The admirable Holt system furnishes the cue to all these measures.

Sanitarians at once recognized the duty of all governments to extirpate epidemic diseases in their endemic homes. But these are apt to be found among ignorant and shiftless people, often maintained by religious fanaticism.

Vast hordes of Hindoos are collected on the Ganges at special points to bathe in its sacred waters on a special day, and also to drink of them. The multitude encamped on its banks, awaiting the supreme moment of religious exaltation, defile the waters so as to render them admirably efficient for their devilish work. Beatification having been obtained, the wretched victims of superstition fly along every route, scattering the cholera over the world.

More than twenty years ago this writer, in a public address, insisted that the long arm of Europe should reach into the heart of Asia and compel these fanatics to cease consuming their own dirt. Surgeon-General Hamilton, in an excellent paper, has brought out the same thought with reference to the haunts of yellow fever.

If a band of fillibusters should land on the remotest Florida Key, the American heart would throb with rage from Alaska to Eastport. Yet we are silent when invaded by the invisible hosts who will soon destroy more lives than will occur in the most sanguinary battles. A large number of facts bearing upon the subject of hygiene are passed by for want of time in their enumeration.

The Government has shown willingness to advance in the great work of hygeine when properly approached, but does not readily take the initiative. I might cite many instances of this. I might detail the accounts of Dr. Sternberg's investigation of the application of attenuated yellow fever virus, after Pasteur's method by Dr. Domingues Freire, of Rio Janeiro, whose scientific claims were so utterly demolished that you feel pity for the victim. I might speak of the international conference for promoting uniformity of action in matters of hygeine, marking a splendid advance in the application of science to practice showing that "all the world's akin." I might detail the doings of the convention of Montgomery, and mark the influence of the Public Health Association, and of many other things showing the grand movement of the day.

But besides the great matters of external quarantine which are necessary to the obstruction of epidemics, there is the necessity of regulations which have been but moderately attended to, and yet are of the greatest importance.

The contagiousness of diphtheria and scarlet fever, and the known transmission of these terrible scourges by fomites has received but little attention. The disinfection of cars has not been systematically attempted, but calls for investigation and a general ruling. This matter alone will necessitate a large force of inspectors. It can hardly be done except by the National Government, which should stand guard at every State line, as well as on the outer border.

The vast questions relating to the adulteration of food should come under the same rule as other sanitary questions.

While this writer was a member of the State Board of Health of New York, it received notice of a ship having arrived from China, loaded with what the Celestials call "lie tea." It immediately took measures to have the pseudo-tea thrown into the harbor, but it was confronted with the question of jurisdiction. The owners soon became aware of its intentions, and before the machinery of law could be invoked the industrious drummers threaded the routes of commerce, and we had no "lie tea" to throw overboard.

There are also vast questions yet untouched involved in the prevention of malarial diseases. The drainage of swamps is a matter which will task the best judgment of scientists and engineers. States shrink from any consideration of the subject, appalled by its magnitude, nevertheless upon them the work must essentially fall. But pestilential swamps cross State lines, and one State may be much injured by the action of its neighbor. The difficulties surrounding these questions are prospective, but their solution will be demanded as population grows more dense.

In all this I have presented to you nothing new. To many of you the facts to which I have alluded are far more familiar than to myself. But their recital was necessary to focus the attention upon the situation. The relations of our dual government have become more clearly defined than formerly as the necessity of action has arisen. The interference of the National government with the States, in the exercise of their just rights, will always be resented, and in my judgment should be most jealously. But this does not absolve the National government from the performance of paramount duties in the various relations thus far cited.

Can a National board of health execute the functions indicated? It found itself embarrassed almost at once by its size and created an executive committee. If it undertakes to perform the duties necessary, it must organize a permanent force and be constantly in session, or divide its membership so that each one shall be the executive head of a drawer in a large bureau. This surely would be no gain over a bureau superintended by one man. The Secretary of the Treasury is that one man now. But the relation is an absurd one. In a village board of health would any one choose the banker as its head because of his trade? Has a financial functionary any conceivable relation to a scientific body, of a natural kind? The true solution of this vexed question should be found as in the end it must be, by the appointment of a single man who will give his undivided attention to this great subject. He should be to his functionaries what the Secretary of War is to his. It is not essentially desirable that he should be a medical man. Probably it would be undesirable. Our government in its concrete form represents the people, and the Secretary of War and Navy are not professional soldiers or sailors, and thus they stand between the purely professional organization and the people. My own observation has shown me that a layman on a State Board of Health is one of its most valuable members, rapidly coming into relation with the ideas of his confrères and giving assurance to the community. Moreover, the expansion which an organized system would assume needs this position. As I have said I do not fear political dangers. Indeed, I do not see that they would be other than those we incur at present. The members of the National Board of Health, drawn from civil life, might in time become subject to the baneful influence of political choice. But the Army and Navy are free from this in virtue of the commissions they hold. The medical men must be confirmed in their places by the same method. Experience has shown that the best talent can be thus secured. Surgeon General Hamilton has developed this plan with eminent success. When a government can draw upon such men as Sternberg, and Billings, and Guiteras, it is independent of choice from civil life. The Department of Agriculture found the bureau of animal industry was altogether taken up with the consideration of animal diseases. It would seem to be cognate, but the natural outcome of such a bureau should be the improvement of animals and their financial relation to the country. The sanitary questions involved should be gathered into the same hands that wield the powers of government with reference to contagious diseases in human beings. This bureau has developed excellent scientific workers. The Marine-Hospital Service and the Army and Navy have their laboratories and pursue original investigations. The control of all should be under one head. It would thus become far more efficient. The time has come and now is when the health minister should be appointed.

I close my discourse as I began it, by saying that the profession, both in its aggregate character as represented by this body and by its individual members, should urge on the execution of this movement, the ultimate one in our government. When this is done, this department will expand to the necessities of the case. There will be no dividing of the responsibility, and there will be constant watchfulness during the war which is inevitable. When this shall have been accomplished it will be found that of all the men chosen by the chief of our magnificent government, to aid him in carrying on its functions, the one who will have the most arduous labors to perform and the most delicate functions to execute, will be the Secretary of Sanitation.

THE ADDRESS ON MEDICINE.

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The intelligent and thoughtful physician, reasonably familiar with current medical literature, has not failed to notice the extraordinary activity in many lines of investigation, and the rapidity of changes in almost every department of practice, that characterize the present period of time. And if he could safely regard all positive assertions as facts, all changes as progress, and all progress as genuine improvement, then surely, he might justly claim the last two or three decades of time as an epoch of improvement in the science and art of medicine without a parallel in all the past centuries.

It is no part of my present purpose, however, to attempt a review of the general field of medicine, but rather to ask your attention to only a limited number of the topics and tendencies that are at present exerting an important influence on the progress of true medical science and on the results of medical practice. Every period of unusual activity of investigation and advancement in any department of the great field of medicine, may be traced to some new discovery in the collateral sciences, or to some new application of facts and physical laws already well known. Thus, the simple application of the anæsthetic properties of nitrous oxide, ether and chloroform to the prevention of pain, supplemented by the application of antiseptics and germicides for the prevention of suppuration, has not only given to the practical surgery of to-day its extraordinary development, but has enabled its votaries to boldly invade every region or cavity of the human body to remove morbid developments or to repair injuries. So too, the application of chemical and physical laws to the study of the composition and minute structure of organized tissues, both in health and disease, by the analytical processes of the chemist, and the revelations of the compound microscope and the spectroscope, not only revealed to us the minute structures and their modes of development from the simple vitalized speck of bioplasm to the most delicate and complete of animal structures, but they soon detected in morbid conditions new chemical products or ptomaines and the germs of fermentation and suppuration.

It is to these simple beginnings we owe the unparalleled activity in the application of chemistry and microscopy to biological, bacteriological, etiological, pathological, sanitary and therapeutic investigations that has characterized the last two decades. Indeed, so strongly has the medical mind become engrossed in the microscopic search for bacteria or microörganisms as causes of disease, and in the minute structural changes constituting morbid anatomy, that true pathology or the philosophy of morbid processes and the laws that govern them has been nearly lost sight of. And as a necessary coincidence of this intense search for specific causes of diseases, the mind of the practititioner has been directed more and more to the search for specific remedies for each disease, and the chemist has lost no time in supplying him with an almost endless variety of antiseptics, germicides, antipyretics, and antidotes; and when these were not found in sufficient variety among the active principles of vegetable remedies and the inorganic compounds, he has reversed his ordinary processes and begun to manufacture, synthetically, a prolific series of complex organic compounds each claimed to possess such qualities as fit it for specifically controlling some one or two important symptoms of disease, more especially pain and heat—analgesic and antipyretic.

So greatly have these tendencies influenced a large proportion of practitioners that much of the bed-side practice, especially in reference to the treatment of acute general diseases, has become little more than a clerical process. To note daily the line of *temperature* as indicated by the clinical thermometer and adjust the quantity of the favorite antipyretic in accordance therewith, and see that the patient has plenty of liquid food slightly seasoned with some alcoholic liquid at first, but steadily increased as the disease progresses, constitutes the *routine;* but little attention being given to the condition of the important secretory and excretory organs, to the varying conditions of vital processes in different stages of disease, or even to local pathological changes that are liable to take place in the progress of all general fevers.

If it were true that simple elevation of temperature constituted a general fever or any form of acute general disease, and that the general molecular degenerations were caused by the high temperature, as claimed by some, and even that the intestinal and other local lesions were only the result of Nature's, so-called, effort to expel the offending material or specific cause from the system, then certainly, to note the temperature and skilfully to adjust the antipyretics with nourishment would constitute the chief duty of the physician at the bedside of his patient; and his success would depend mainly upon the accuracy of his thermometric observations and the efficiency of his antipyretics.

But abundant clinical facts, carefully observed and accurately recorded, show with the clearness of a mathematical demonstration that a general fever, instead of being simply high temperature, is a complex morbid condition involving coincident disturbances of the properties of living matter and of the metabolic or molecular movements constituting assimilation, nutrition, secretion, disintegration and excretion; the elevation or depression of temperature being only one of the many symptoms of more or less importance resulting from such complex disturbance. This is sufficiently proved by the familiar fact that though we reduce the febrile temperature three or even six times a day with our antipyretics, it rises again just as often until it has become a generally recognized fact that this class of remedies exert little or no influence on the duration of the general disease. A striking illustration of this is furnished by the statistics obtained by Dr. Hood from the records of the St. Bartholomew's and Guy's Hospitals relating to the treatment of acute articular rheumatism or rheumatic fever. In these two hospitals he found recorded over 2,000 cases, 800 of which had been treated before the introduction of salicyl compounds, antipyrin, acetanilid, salol, etc., in the treatment of febrile diseases, and the remaining 1,200 since these became the leading remedies used. By a careful analysis of these cases as recorded, Dr. Hood shows that, while the use of the class of remedies just named, afforded the patient much earlier relief from pain and lessened the temperature, it resulted in neither shortening the duration of the disease, nor lessening the number of cardiac complications or the frequency of relapses. My own clinical observations both in private practice and hospital wards, have shown that the use of the same remedies in the treatment of typhoid fever, for the control of temperature from day to day in antipyretic doses, not only does not lessen the duration of the disease but it directly increases the tendency to impairment of the respiratory function, to the much dreaded cardiac weakness, and to the supervention of sudden and unexpected collapse after the middle period of the disease. And I have been unable to find anything in the medical literature of the past few years showing that the very general use of the antipyretics under consideration in the treatment of continued fevers, had resulted in either lessening the ratio of mortality or their duration, but rather the reverse. It is obvious, therefore, that the real value of any remedy in the treatment of acute general diseases cannot be determined by its specific effect in temporarily controlling one or two prominent symptoms, but the mode of its action on the elements of the blood, on the molecular movements in the tissues and secreting structures, and on the nervous centres, must be ascertained with a reasonable degree of certainty. If it should be found that a given antipyretic and analgesic remedy relieved pain and diminished temperature by producing a direct sedative or depressing influence on the sensory, vaso-motor and trophic or heat centers of the nervous system, or by such direct effect upon the hæmoglobin or corpuscular elements of the blood as to lessen the oxygenation and decarbonization of that fluid, it is evident that its continued use from day to day through one, two or three weeks would increase the danger of parenchymatous degenerations, exhaustion, blood impoverishment and collapse; or a protracted convalescence and imperfect recovery—effects very poorly compensated by the diminished temperature and less restlessness induced by it. Physiological investigation long since demonstrated the important fact that all nerve sensibility and all metabolic or molecular changes in the living body were dependent on the presence of arterial blood containing oxygen; and later investigations have equally demonstrated that the temperature of the living body is maintained at a given normal standard by the balance between the anabolic or constructive molecular changes as heat producing, and the katabolic or retrograde and eliminative changes as heat discharging, processes, both subject to more or less modifying influence by the vaso-motor or the heat centres of the nervous system. When these several processes maintain their normal relative activity the temperature remains natural. But if the anabolic processes are diminished or increased while the katabolic changes remain natural, the temperature will fall or rise accordingly; and the same will be true if the katabolic processes diminish or increase while the anabolism remains normal. I may safely assume, therefore, that all acute general diseases or fevers accompanied by abnormal temperature, include as an essential part of their pathological processes, profound disturbance of these intricate metabolic processes in some direction; the particular direction being determined by the nature of the special cause or causes of such form of disease.

It is equally safe to assume that all antipyretic remedies produce their effects by either directly or indirectly, increasing the katabolic or heat discharging process, or by diminishing the anabolic changes, or possibly by both. I use the word *indirectly* here, for the reason that a remedy exerting a direct influence on the vaso-motor or heat nerve centers would indirectly influence the general temperature chiefly through the heat discharging processes; while a remedy capable of so acting upon the hæmoglobin or corpuscular elements of the blood as to lessen the conversion of the hæmoglobin into oxyhæmoglobin by which the carbon dioxide is discharged and the oxygen received and carried to the systemic capillaries constituting the essential function of respiration, would thereby indirectly retard all the anabolic changes and in doing so lessen heat production. It is evident that a remedy producing its antipyretic effect by the last named method, must be used with great caution and only for limited periods of time, lest while lessening the febrile pyrexia it so far retards metabolism generally as to end in fatal parenchymatous and tissue degenerations. And yet, facts have been rapidly accumulating which render it highly probable that nearly all the complex artificially prepared organic compounds that have been successively urged upon the attention of the practitioner as efficient antipyretic and analgesic remedies during the last few years belong to this class. Abundant clinical observations and numerous experiments on animals by many careful investigators, have shown that salicylic acid and salicylates, antipyrin, kairin, acetanilid, phenacetin, exalgine, etc., all produce their antipyretic and analgesic effects by more or less direct interference with the function of the hæmoglobin of the blood, and a marked depressing or paretic effect on the sensory, vaso-motor and excito-motor nerve centres. Their effect on the corpuscular constituents of the blood is seen in the many cases of profound cyanosis already reported as having occurred during their use as remedies in the treatment of disease; and their equally direct effect on the important centres in the base of the brain and in the medulla oblongata is fairly demonstrated by the experiments of Batten and Bokenham, Botkin and Sawadowski, and others, as well as of their prompt effect in diminishing pain and nervous excitability. Their marked effect in impairing the assimilative and general metabolic processes is shown by the diminished conversion of glycogen into sugar in the liver and the muscles, as proved by Lepine and Porteret; the decided diminution in the products of nitrogenous elimination, more especially of the urea, the sulphates and phosphates; and the reduction of the mammary secretion during lactation.

The very interesting series of observations made by Riess, during the administration of antipyrin in typhoid fever, seemed to prove conclusively that the drug held in check some of the most important metabolic changes to a remarkable extent. Not only was the excretion of urea greatly diminished, but all the solid constituents of the urine were diminished, and the total quantity of urine also, to a greater extent than could be explained by the increase of cutaneous exhalation (see Dr. Cash's address).

The foregoing clinical and experimental facts, with many others that might be cited, did time permit, demonstrate that all the artificially prepared and chemically complex antipyretics recently brought into such general use are not merely antipyretics and analgesics, that is, capable of promptly controlling pyrexia and pain, but also that they are equally active retarders of nutritive and tissue metabolism, and depressants of nerve force and sensibility. In other words, their antipyretic and analgesic effects are produced by their interference with the most important metabolic processes and nervous functions on which heat production and nerve sensibility depends. The logical and necessary inference is that they cannot be used in doses sufficient for efficient antipyretic effect continuously for any considerable length of time, without seriously impairing the quality of the blood, the nutritive or general metabolic processes, and depressing the vaso-motor, cardiac and sensory nerve functions. For temporary relief in many neuralgic and spasmodic affections, and the early mitigation of pain and high temperature during the first two, three, or at most four days, of such excessively painful and active general febrile affections as acute articular rheumatism and dengue, they serve an excellent purpose by greatly lessening the suffering of the patients while they are being brought under the influence of other remedies of more curative value.

But in the group of general acute diseases, of which typhoid fever is the most important example, arising from special causes that from the beginning lessen the sensibility and natural activity of the nervous centres, impair the quality of the blood, and so interfere with tissue metabolism as to cause general molecular degenerations, thereby creating a pyrexia of from two to six weeks' duration, there is no rational indication for the use of this class of remedies. The patients seldom suffer such acute and persistent pain as to demand the use of an analgesic or even an active anodyne. The pyrexia is moderate at first, but advances persistently, and though temporarily controlled by each dose of the antipyrin or acetanilid, it as regularly returns as soon as the force of the dose is expended. Hence, to continue the desired reduction of temperature the antipyretic dose must be repeated from two to three times in the twenty-four hours, and if this is done before the natural time for commencing defervescence or approach of convalescence, the antipyretic has added so much to the impairment of respiratory and cardiac nerve force, as well as to the molecular tissue and blood degenerations naturally caused by the special cause or causes of the disease, that in very many cases a dangerous, and sometimes a fatal, degree of prostration rather suddenly supervenes some time during the third week of the disease, characterized by a frequent and weak pulse, inefficient respiratory movements from rapidly increasing hypostatic pulmonary engorgement, a dingy or leaden hue of the surface, with sweating, impairment of the special senses, with mental apathy, and some impairment of the action of the bladder and rectum.

It being generally conceded that the natural heat discharging processes are radiation, cutaneous and pulmonary exhalations, and evacuations generally, it seems to me far more safe, in all the typhoid and lower grades of continued fevers, to relieve the excess of heat by increasing these natural processes, than by any remedies that endanger increased blood and tissue degenerations and depression of nerve force. Ample experience has demonstrated that this can be efficiently done by frequent sponge bathing with water at such temperature as is most agreeable to the patient, aided in extreme pyrexia by wrapping the patient in the cold wet sheet a few times, which can be done not only without danger of causing depression, but with a positively refreshing influence.

I am constrained, from a sense of duty, to add some comments on the *modus operandi* of another remedy extensively used in medical practice, and especially in the treatment of continued fevers. From the length of time it has been in use and the large amount used it would seem that its physiological and therapeutic effects should have been fully demonstrated long before this time. Instead of this, however, these effects still elicit expressions of opinion and modes of practice of the most varied and contradictory character. I allude to alcohol as it exists in the various fermented and distilled liquors, and exclusively as used as a remedy in the treatment of disease. Instead of spending your time on a history of the various opinions and investigations pertaining to this subject, I shall invite your attention directly to as concise answers as possible to the two following questions, viz.: What are the effects of alcohol on the functions of the more important organs and upon the constituents of the blood and tissues of the living body? What are the therapeutic indications it is capable of fulfilling in the treatment of diseases, more especially of general fevers?

In answering the first question it may be stated that alcohol, when taken into the stomach in a diluted form, undergoes no gastric digestion, but is rapidly absorbed and carried directly into the venous blood, and through it reaches first the liver and the lungs, and from thence, in the arterial blood, it is carried to every organ and tissue of the body, and some part of it is speedily eliminated, unchanged, through the lungs, kidneys and skin. This much appears settled beyond further controversy. But what becomes of the large part that cannot be recovered through the excretions and exhalations, and what effect is produced by its presence, on the constituents of the blood, on the functions of the brain and nerves, on the metabolic processes, and on the temperature of the body?

The experiments of Schulinus and Salzynski show conclusively that about ten per cent. of the alcohol taken disappears, or at least loses its identity immediately on mingling with the blood. If this sudden disappearance of 10 per cent. of the alcohol was caused by its immediate oxidation, an ordinary dose could not fail to quickly increase the heat production and proportionately increase the resulting carbon-dioxide and water. According to the accepted formula, the complete oxidation of 1 gram of absolute alcohol liberates 9 kilogram degrees of heat. Therefore, if 20 grams of alcohol were introduced into the blood of an individual, and one-tenth, or 2 grams, immediately disappear by oxidation, 18 kilogram degrees of heat should be at once added to the temperature of that fluid, with a corresponding increase in the production of carbon-dioxide and water. And if only from 2.5 to 15 per cent. was subsequently eliminated unchanged, as claimed by numerous experimenters, leaving about 17 grams of the alcohol to disappear by subsequent oxidation during the next few hours, it should liberate 153 kilogram degrees of heat more with its resultants, carbon-dioxide and water. But a careful review of all the experimentation upon this subject shows no evidence of such marked increase in either heat production or in carbon-dioxide by the presence of alcohol in the blood. On the contrary, the most recent and accurately conducted experiments of Dr. Edward T. Reichert, Professor of Physiology in the University of Pennsylvania (see *Therapeutic Gazette*, Feb. 15, 1890), show results decidedly the reverse. He performed eighteen experiments on dogs with the aid of an improved calorimeter, by which he determined the rate of both heat production and heat dissipation with the actual temperature of the animal for six consecutive hours after the administration of a given quantity of alcohol proportioned to the weight of the animal.

In sixteen of the eighteen experiments the average heat dissipation exceeded the heat production and the temperature was lowered; in only two was a reverse result obtained. In thirteen of the eighteen experiments the average heat production was diminished, while in the other five it was increased. In all but two of the experiments the average heat dissipation was also diminished, in a less ratio, however, than the diminution of heat production, and the actual resulting temperature of the animal was lowered. Dr. Reichert, during these very valuable experiments, took no note of the variations in the production of carbon-dioxide, but the aggregate results of both experimental and clinical observations during the last half century sufficiently demonstrate the fact that the production of carbon-dioxide, urea, phosphates, and nearly all other excretory products of metabolism or retrograde metamorphosis, and the consumption of oxygen, are diminished by the presence of alcohol in the blood.

The suggestion of Dr. Reichert and many others, that the alcohol while undergoing actual oxidation in the blood, producing both heat and carbon-dioxide, with consumption of oxygen, simultaneously diminishes the metabolism of the tissues so much that the production of both heat and carbon-dioxide from that source is so far diminished as to balance, or more than balance, the increase of these by the direct oxidation of the alcohol, does not afford a satisfactory explanation.

If, as has been demonstrated, one-tenth or more of the alcohol taken into the blood *immediately* disappears, and such disappearance is caused by an equally sudden oxidation, the increased quantity of heat and carbon-dioxide thus liberated could not escape ready detection before it could be counterbalanced either by diminished heat production from retarded tissue metabolism, or from increased heat dissipation.

And yet, neither the aggregate results of the numerous and varied experiments, nor of the abundant clinical observations, show any such primary marked increase in either the consumption of oxygen or increase of carbon-dioxide and heat. That when alcohol enters the blood diluted with water it rapidly disappears or loses its identity, there is no reason to doubt. That while present and circulating with the blood it diminishes nerve sensibility and force, lessens the average temperature, retards metabolism or molecular changes in the tissues, and lessens the aggregate of effete eliminations, is equally certain. How it disappears—what new combinations it enters into by which its identity as alcohol is lost—and how it modifies nearly all the processes and functions of the living system, are questions of the greatest importance. The element or idea that has hitherto vitiated nearly all the reasoning and deductions from the numerous clearly established facts developed by the investigations has been the purely theoretical assumption that alcohol, being a pure hydrocarbon, could undergo no change or combination in the laboratory of the living body save that of oxidation or combustion and the evolution of heat or some kind of force. Under the influence of this primary assumption each chemico-physiological investigator, though acknowledging that the presence of alcohol in the blood actually diminishes nerve force, muscular force, metabolic force, heat force, and the ordinary products of oxidation, still returns to the theoretical idea that, inasmuch as the alcohol disappears in the system, "it must undergo oxidation and evolve some kind of force." The well-known fact that alcohol possesses a strong affinity for the water and albumen of the living tissues and for the hæmoglobin and corpuscular elements of the blood, and is capable of exerting a modifying influence on the molecular condition of all these elements, seems to have received far less attention than its importance demands.

Dr. B. W. Richardson, of London, first pointed out the fact that the presence of alcohol in the blood caused alterations in the appearance of the corpuscles, causing them to become corrugated to some extent, and more disposed to adhere together.

Dr. George Harley further showed that the addition of 10 per cent. of alcohol to fresh arterial blood changed its color, prevented its re-oxygenation and destroyed its power of producing hemin crystals. The addition of 5 per cent. did not materially change the color, but it completely destroyed the capacity of the corpuscles for further oxygenation or purposes of nutrition.

Dr. Joseph Frank Payne, Vice-President of the London Pathological Society, in opening an important discussion of the subject by that body in January, 1889, stated that alcohol, when taken internally, not only speedily produced derangements of the nervous functions, but also acted directly on the tissue elements, "(1) as a functional poison, (2) as a tissue poison or destructive, (3) as a checker of oxidation." And when its action becomes persistent, or chronic, it results in hyperplasia of connective tissue, fibroid changes, fatty and tuberculous degenerations, and fatty infiltrations in almost every tissue and organ in the body. Both Dr. Payne and Dr. Lionel Beale presented microscopical sections of a liver changed by chronic alcoholism, showing not only hyperplasia of connective tissue, but also essential atrophy of the liver cells. For the purpose of gaining more knowledge concerning the action of alcohol on the hæmoglobin, and its relation to the oxygen of the blood, Dr. John D. Kales, Demonstrator of Histology in the laboratories of the medical department of the Northwestern University (Chicago Medical College), executed a series of observations with the spectroscope and microscope on blood drawn by hypodermic syringe from the heart of living rabbits and mixed with alcohol in varying proportions, from 1 to 10 per cent. of the latter. He found that when absolute alcohol in varying quantities, from 1 to 5 per cent., was mixed with the freshly drawn blood diluted with distilled water, it made no perceptible change in the oxyhæmoglobin spectral bands at ordinary atmospheric pressure and a temperature of 98° F. Neither was there any evidence of oxidation of the alcohol. But when the pressure was diminished by means of the air pump to the extent of 710 millimetres of mercury the hæmoglobin was rapidly reduced by surrendering its oxygen, which did not combine with the elements of the alcohol present, but escaped in a free state. It was further shown that the rapidity of the reduction of the hæmoglobin increased by increasing the proportion of alcohol used. Also, when the oxyhæmoglobin was reduced in contact with the alcohol, it was less capable of re-oxygenation than when reduced without the presence of the alcohol.

As the experiments of Dr. Kales constitute an interesting item of original work, I take the liberty to append his own concise report of the same to this address.

In view of all the foregoing facts I feel justified in considering the following propositions fairly established:

1. Alcohol, when present in the blood, either combines with or causes changes in the molecular composition of the hæmoglobin, by which the natural conversion of the latter into oxyhæmoglobin is diminished, and consequently less oxygen is carried from the pulmonary to the systemic capillaries.

2. The same strong affinity of the alcohol for water and albuminoids that enables it to modify the composition and function of the hæmoglobin of the blood, also causes it to modify the molecular condition and functions of the tissue cells throughout the body, and thereby retard or lessen the aggregate of metabolic changes and their products, as shown in the diminished product of carbon-dioxide, urea, phosphates, heat, etc.

3. Both the direct effect of the alcohol on the nerve cells, and its indirect effect in lessening the amount of oxygenation of the blood, causes it to produce marked diminution of nerve sensibility and vaso-motor nerve force; or, in other words, a true anæsthetic effect upon the nerve centres.

4. It follows as a necessary conclusion from the three preceding propositions that instead of generating any kind or form of force or energy, alcohol in the blood actually diminishes every known form of force belonging to the living body; and instead of conserving the tissues, it diminishes and prevents the metabolic changes, and thereby promotes both molecular and tissue degenerations, as so uniformly seen resulting from chronic alcoholism.

Like antipyrin and other members of the group of antipyretics on which I have ventured to comment, the alcohol acts directly on the corpuscular elements of the blood, and so far diminishes the molecular tissue movements of nutrition and disintegration as to lessen heat production and favor tissue degeneration, while its action on the nerve structures is more in the direction of an anæsthetic than of an analgesic.

And hence like them, if administered in acute general diseases, by its anæsthetic properties it quiets the patient's restlessness, lessens his consciousness of suffering, and diminishes vaso-motor and excito-motor nerve force, with moderate reduction of temperature; while by its direct diminution of tissue metabolism and excretory products it favors the retention in the system of both the specific causes of disease and the natural excretory materials that should have been eliminated. And though the immediate effect is to give the patient an appearance of more comfort, the continued retention of the morbific cause, the diminished action of the excretory structures, and the diminution of oxyhæmoglobin, all serve to protract the disease and increase molecular and tissue degeneration and add to the number of fatal results.

I am well aware that the foregoing practical deductions, founded on the results of numerous and varied experimental researches and well known physiological laws, are in direct conflict with the very generally accepted doctrine that alcohol is a cardiac tonic, capable of increasing the force and efficiency of the circulation, and of conserving the normal living tissues, and, therefore, of decided value, especially in all the lower grades of general fever. But on what series of well established facts does this "very generally accepted doctrine" rest? Certainly not on any resulting from direct experiments on either animals or man in health, for all these result in showing depression of the vaso-motor and heat centres of the brain, and impairment of cardiac force in direct proportion to the quantity of alcohol in the blood. (See experiments of Drs. Martin, Ringer and Sainsbury, Reichert, and others.) Many of you are doubtless ready to say that it rests on a broad basis of direct clinical experience; but reliable results from clinical experience in the use of a remedy in the treatment of any disease can only be gained by comparing the results of an adequate number of cases in which it was used, with the results of a like number of parallel cases treated in the same manner, except with the remedy omitted. The nearest approach to such a basis for comparison that is found on record is furnished in the reports of hospital and private practice for a given period, where in certain acute general diseases alcoholic remedies were either not given or used very sparingly, and before the recent antipyretics were manufactured; and similar reports for an equal period of time when in the same diseases the antipyretics and alcoholics were freely used. The treatment of typhoid fever and pneumonia, two clearly defined acute diseases of great importance and familiar to all general practitioners, will serve the purposes of my inquiry.

As Dr. George B. Wood, in his well-known work on the Practice of Medicine, recommended the use of alcoholic remedies only in the last stages of typhoid fever, and then chiefly in the form of wine-whey, made from 1 part of sherry wine and 2 parts of milk, given in tablespoonful doses, his results may be fairly placed on the side of non-alcoholic treatment. He has stated that of the whole number of cases treated by him in the Pennsylvania Hospital from 1850 to 1854, less than 6 per cent., or one in seventeen, died. A more marked and complete experiment was made when, in 1864, the Commissioners of Public Charity of New York City were induced, on account of the great mortality of fever patients in the Bellevue Hospital, and also for better isolation, to commence sending the typhus fever patients to Blackwell's Island, where they were placed in canvas tents under the immediate charge of Dr. A. L. Loomis. At the end of nine months the average number constantly under treatment had been seventy, or about 600 in all. Their treatment had been exclusively hygienic, consisting of ample ventilation, good air, cleanliness, and simple nourishment. No medicines and no alcoholic stimulants were used. The result was one death in seventeen cases, or only 6 per cent. (See letter of New York Correspondent in *Chicago Medical Examiner*, Vol. vi, p. 79.) In 1869, the present large building was erected to accommodate the Mercy Hospital, of Chicago. With the exception of one year, I had continuous charge of the medical wards, including rather more than half of the typhoid and other fever patients, from that time until 1886; and since the last date Dr. N. S. Davis, Jr., has divided the time with me. During these twenty years the number of typhoid fever patients admitted and treated in the wards under my charge annually, has varied from thirty to 100, making a total of more than 1,000 cases. Much the larger proportion were from the class of common laborers, and they seldom reached the hospital until in the second week in the progress of the disease, and a considerable number not until in the third week. During this whole period of time, the use of alcoholic remedies, both fermented and distilled, has been rigidly avoided in the treatment of this class of patients. The administration of the most popular internal antipyretics, antipyrin and antifebrin, was commenced by my colleague in charge of the wards, and given a fair trial during the last three years. But the cases so treated resulted in so decided an increase in the ratio of mortality, that he abandoned their use in the treatment of this variety of fever. The actual ratio of mortality for the whole number of cases treated during the twenty years was 5 per cent., or one in twenty cases; the highest ratio in any one year being one in fifteen, and the lowest one in thirty.

On the other hand, nearly all the reports from the principal hospitals, both of Europe and this country, in which alcoholic liquors are freely used in the treatment of typhoid and typhus fevers, the ratio of mortality is given at from 16 to 25 per cent., or one death in from four to seven cases.

As examples, during the three years immediately preceding the sending of typhus patients to the tents on Blackwell's Island in 1864, 908 cases had been admitted into Bellevue Hospital and treated by a liberal administration of alcoholic remedies, chiefly brandy, whisky and wines, resulting in 198 deaths, or one in four and one-half. By eliminating the number who died within forty-eight hours after admission as not really subjects of treatment, the real ratio of mortality was about one in six.

From a paper read by E. T. Edgerly, M.D., before the Clinical Society of Cook County Hospital, Chicago, February 6, 1890, we learn that 161 cases of typhoid fever had been treated in the regular medical wards of that hospital during the year 1889, of whom 110 were males, and fifty-one females. Among the remedies usually used were mentioned antipyrin and antifebrin as antipyretics, and alcohol as a stimulant. The number of deaths was twenty-seven, or one in six cases, *i. e.*, about the same as obtained in Bellevue twenty years before the internal antipyretics had been manufactured.

The official annual report of the Cincinnati Hospital for the year 1886, states that forty-seven cases of typhoid fever were treated during the year, of which seven died, or one in 6.7. In the report of the Garfield Memorial Hospital at Washington for the year 1889, the number of typhoid fever patients admitted is stated at twenty-two, of whom five died, or one in 4.4.

The foregoing clinical statistics are sufficient to show that the ordinary use of alcoholics and the more recent internal antipyretic remedies in the treatment of typhoid fever pretty uniformly results in one death for every four to seven cases treated; while cases of the same fever treated without any use of these remedies result in only one death for every seventeen to twenty cases.

So far as I have been able to gather reliable clinical data for comparing the results of the treatment of pneumonia, or as it is more generally called pneumonic fever, by the very general use of antipyrin, antifebrin, etc., for controlling the high temperature, and alcoholic liquors as cardiac tonics, with cases of the same disease treated without the use of any of these remedies, they show equally striking and important differences. Thus, the *Medical News*, of Philadelphia, December 11, 1886, stated that "the ratio of mortality from pneumonia in the large general hospitals of this country is rarely below, more often above, 25 per cent." In the Pennsylvania Hospital during the years 1884–85–86, the number of cases of pneumonia treated was eighty-eight, with thirty deaths, or 34 per cent. In the same hospital during the years 1845–46–47, the number treated was twenty-five, with four deaths, or 16 per cent.; less than half the ratio of the recent period (Osler).

The statistics of 1,000 cases of lobar pneumonia treated in the Massachusetts General Hospital, Boston, from 1822 to 1889, as compiled by Drs. C. W. Townsend and A. Corlidge, Jr., give an average mortality for the whole period of 25 per cent. But dividing the time into decennial periods, they state that "the mortality has gradually increased from 10 per cent. in the first decade to 28 per cent. in the present decade." In the annual report of the Supervising Surgeon-General of the U. S. Marine-Hospital Service for 1888, it is stated that the whole number of cases of pneumonia treated in the several Marine-Hospitals, under that Service, from 1880 to 1887, inclusive, was 1,649, of which 311 died, or 18.8 per cent.

In the Cincinnati Hospital report for 1886, the number of cases of lobar pneumonia treated is stated at forty-two, of which sixteen died, or 38 per cent. Dr. Ludwig Hektoen reports, as treated in the Cook County Hospital, Chicago, during 1889, of lobar pneumonia seventy-six cases and of lobular pneumonia four cases—total eighty cases, of which twenty-nine died, or 36 per cent. Dr. C. W. McIntyre, house physician, reports fourteen cases of pneumonia treated in my half of the medical wards of the Mercy Hospital, Chicago, during the year 1889, of which one died. In the same wards of that hospital during the last ten years, the average ratio of deaths from pneumonia has been about 12 per cent. No alcoholic and very little internal antipyretic remedies have been used in the treatment.

I am well aware that the foregoing fragmentary statistics in regard to both typhoid fever and pneumonia, afford no adequate or reliable basis for determining the value of different modes of treating these important diseases; and I have cited them for no such purpose. But I have simply copied them from such sources as were at hand, to show, first, that the very general use of the complex artificially formed antipyretics (antipyrin, etc.), in the treatment of continued fevers, including pneumonia, in addition to the liberal use of alcoholic (so-called) stimulants, has not been accompanied by any decrease in the ratio of mortality or in the duration of these diseases. On the contrary, so far as they show any change it is in the direction of increase in both particulars. And second, so far as they include results obtained by treating many cases of the same forms of disease without any use of the remedies named, the ratio of mortality has been reduced in so marked a degree, as to force the conviction that their use in the treatment would have been positively injurious. Consequently our appeal from the clearly established deductions from direct experiments concerning the physiological and pathological action of the remedies under consideration to the domain of clinical experience in their use shows, instead of conflict, entire harmony in the results.

Mere theoretical opinions have ever exerted a dominating, and often an injurious influence over the administration of remedies in the treatment of disease; and the present decade of time shows no exception to this rule.

The theoretical dogma that all disease consisted in primary irritation, and the maxim, *ubi irritatio ubi fluxus*, that led, during the last part of the last century, to the rigid antiphlogistic system of treatment, with bleeding, evacuants and low diet for its basis, was not enforced with more magisterial authority for the greater part of the first half of the present century—or until it was overthrown by its own excesses—than did the equally theoretical assumption following it, that all disease is debility or diminution of life (Chambers), and all acute diseases must run their course, establish and enforce the practice of supporting the patient by food and so-called stimulants until the disease had completed its course which still holds sway, though being rapidly undermined by the recent antipyretic theories and the still more recent discoveries in etiology, relating to specific causes and specific remedies. Therefore, to-day, we are still endeavoring to support our patients with food, fresh air, and alcoholics; while we combat the pyrexia, and attempt to nullify the specific causes, with larger and more dangerous doses of medicine than were given in the most heroic period of the antiphlogistic system. In other words, while we are, with great propriety, insisting that our fever patients must have proper food and the most free access to pure air, we are giving them such doses of alcohol and internal antipyretics as directly diminish the capacity of the hæmoglobin to use the air, and so far diminish the metabolic tissue changes as to retard the normal appropriation of the food, while they equally depress the vaso-motor and respiratory nerve functions. Need we be surprised, therefore, that the results show an increasing rather than a decreasing mortality? The fundamental error consists in using special remedies for the control of particular symptoms, or the removal of specific causes, without an adequate knowledge of their influence on the blood and the various processes and functions of the living body.

If we would reach the highest degree of success in the treatment of acute general diseases, we must keep distinctly in mind the following propositions: 1. We must as early as practicable separate the patient from the further action of both the specific and predisposing causes of his disease by surrounding him with pure air and as perfect sanitary conditions as possible; and as the living animal system uniformly tends to either destroy or eliminate the specific morbific causes by its own metabolic changes, we should carefully avoid the use of such remedies as either directly or indirectly retard or prevent such normal metabolic processes, even for the repression of one or more prominent symptoms. On the contrary, we must use such general alterative and antiseptic remedies as are known to sustain and correct such processes, and thereby aid in hastening the destruction or elimination of the disturbing *materies morbi*, whether they consist of living germs, chemical ptomaines or leucomaines, or only excretory matters abnormally retained in the system.

2. As the pyrexia or high temperature results mostly from interference with the processes of heat dissipation, especially in the ordinary continued fevers, we must further aid in restoring these processes by gently promoting natural elimination and the direct abstraction of heat by sponge baths, and in excessive cases by wrapping in the cold wet sheet, all of which exert a restorative influence on the vaso-motor, cardiac, and respiratory nerve centres, while, with equal care, we avoid administering such doses of internal antipyretics and alcoholics as diminish heat production by retarding both blood and tissue metabolism, and equally depress nerve sensibility and force.

3. Again, as every specific cause capable of producing the complex assemblage of morbid phenomena that constitute a general fever, has displayed a tendency to induce special local morbid conditions in some one or more of the important tissues or organs during the progress of the general disease, as in the glands of the ilium, mesentery and spleen in typhoid; the stomach, duodenum and liver in periodical and yellow fevers, etc., we must early and accurately use such remedies as palliate or modify these local developments wherever they may be manifested, and thereby prevent such structural changes in these directions as might otherwise end in fatal exhaustion.

4. Finally, as all acute morbid processes, when established, are progressive through the successive stages of increase, culmination and decline or destruction of the patient, we must carefully adjust both our remedial agents and nutrient materials to the actual stage of progress of the disease and the capacity of the patient to receive and appropriate the same; ever remembering that the same remedial agent that might be of great value in the first stage, might be injurious or even destructive if used at the stage of culmination, or still more in that of decline. Hence specific remedies for acute general diseases can be rationally or successfully used only when aimed at the destruction or elimination of the specific causes and in the first stage of the morbid processes. Indeed, the chief benefits thus far derived from the use of antiseptics and germicides, have been as preventives in the incubative and prodromic stages, rather than as curatives after active morbid processes have become manifest.

It required much careful clinical observation aided by some analytical and experimental work, during the first thirteen years of my professional life, to gain a clear comprehension of the foregoing general propositions or indications for the management of acute general diseases, but they have served as my general guide during the forty years of constant practice that have intervened since; and with results that have neither diminished my faith in the efficacy of remedial agents when properly used, nor the confidence of the community in which I have continuously lived and practiced the healing art. I do not desire to be understood as persistently using the same remedial agents all these last forty years; but I do mean that the correct principles or indications for the treatment of the different stages of any given disease have remained and always will remain the same; while our choice of individual remedial agents for fulfilling those indications may be influenced by every addition to our knowledge of etiology, materia medica and therapeutics.

If the forgoing review of some of the most important items presented in the field of the practical medicine of the present time, should lead you or any considerable number in the profession, to a closer study and thereby a clearer understanding of the real *modus operandi* of the remedial agents used in the treatment of acute general diseases, I shall be amply repaid for my time and labor, and you will cheerfully excuse me for having trespassed upon your time so long.

ADDRESS ON STATE MEDICINE.

Delivered at the Forty-first Annual Meeting of the American Medical Association, Nashville, Tenn., May 21, 1890.

BY ALFRED L. CARROLL, M.D.,

OF NEW YORK.

In appearing before you, under the mandate of your committee that I should give an Address on State Medicine, I feel like a culprit about to be tried for obtaining your attention on false pretenses, with the additional discomfort of knowing that the most ingeniously unscrupulous member of the metropolitan Bar could not, by the utmost stretch of his professionally elastic conscience, find aught to plead in my defense. For my crime is deliberate and with malice aforethought.

When I was informed of the duty imposed upon me, I at first contemplated the fulfilment of the task; but considering the portentous range of State Medicine—which embraces all the possible relations of our profession to the commonwealth, including medical jurisprudence, medical legislation of every sort, national or international, and sundry other collateral subjects, beside public hygiene—it became evident that the briefest essay to cover such a field would be somewhat longer than a Mongolian melodrama, which occupies a week or two in its performance, and I feared that after the first forty-eight hours you might begin to grow weary. I therefore determined to confine myself to the comparatively small scope of public sanitary administration; and with this limitation, and sedulous concentration, I may hope to conclude a superficial sketch before a very late bedtime.

To the average intelligence, sanitary science has come to mean only a certain smattering of sanitary engineering, and this solely as regards sewerage and plumbing work; to the exceptionally specialized scientific mind, its definition is conterminous with the artificial cultures and stainings of the bacteriological laboratory. Avoiding these extremes of macro-mechanics and micro-biology, my present purpose is to discuss sanitation as concerning the things which the State may properly do for the preservation of health.

There is a wide difference between what we might do, theoretically, and what we can do, practically; and this difference is not always borne in mind by those who with laudable intentions seek to antedate a hygienic Utopia. We could doubtless abolish communicable diseases by seizing and cremating all infected persons and things simultaneously throughout the world; but it is more than doubtful if the public at large would placidly consent to such a general holocaust. We might theoretically save thousands of infants from falling victims to improper feeding and parental mismanagement, if we could assume supreme control of them; but not even the New York Society for the Prevention of Cruelty to Children has yet proposed to take all babies away from their mothers—its powers being apparently directed to preventing their earning a comfortable livelihood at a later age.

We might stamp out syphilitic infection, if legal restrictions could be made to enter the innermost recesses of private life and preside over all sexual relations; but experience has proven that, although we may vastly diminish the avowed channels of its dissemination, clandestine prostitution and more indirect modes of transmission will foil the completion of our precautionary measures as long as human nature rests upon an anatomical basis. We might even effect a scientifically progressive improvement of mankind, if we could enforce the stirpicultural selection employed by breeders of the lower animals; but the marriageable age is apt to be denominated by sentimental affinities, and the loving fancies of youth's springtide are beyond the reach of our autumnal philosophy. An absolutely rigorous Chinese-wall quarantine of exclusion, if it were possible, might work preventive wonders; but in the needs of civilized communities some commercial interests are even more important than the dangers which may accompany them, and while waiting for the altruistic sanitary millennium when exportation rather than importation of disease will be checked, our principal safeguard must lie in the abatement of the local insanitary conditions which furnish a soil for the implantation and multiplication of the *materies morbi*. Medical inspection and isolation of the infectively sick, with disinfection of contaminated things, will always be prudent; but the antiquated mockery of quarantines is as ineffectual as it is vexatious, and must ere long be abandoned by all intelligent nations.

Since the days of the old Crusades, fanaticism has played a stimulating part in the inception of great enterprises, and now, as then, in all new efforts to promote the general weal, unbridled energy tends to overleap the bounds of wisdom, and sometimes needs restraint. In our modern crusade for the glorification of the Temple of Health, the campaign was sagely outlined by such great chieftains as Chadwick, Farr, Parkes, Simon, and others; yet lesser leaders of brigades or companies are here and there found, whose impulsive valor outstrips discretion, and not only embitters the antagonism of our foes, but impedes the advance of our standard. To drop the metaphor, we should remember that sanitary science is still in its infancy, and that until our knowledge of etiology shall be far more certain, we must be cautious lest undigested dogmatism, founded on hypotheses, arouse opposition and ridicule from the people whom we wish to benefit. Even now, under enactments which in several of our States make health-boards legislative bodies, and exempt their decisions from appeal or review, hard and fast rules are often framed from individual opinions, unsupported by demonstrable facts, and things are done which would hardly be tolerated elsewhere. Under a constitutional monarchy, the "liberty of the subject" must be maintained; but as we are all sovereigns here, there are no "subjects" to protest, and consequently no personal rights which any officials, from policemen down to State legislators, are bound to respect; the theory of our democratic system apparently presupposing that a public appointment necessarily carries with it the sudden inspiration of perfect wisdom, unbiased by any previous study of the scientific problems involved. In villages, where health-boards of laymen are appointed from year to year by not always sapient trustees; in rural townships, where supervisors and justices of the peace constitute, ex-officio, the local boards—even in cities wherein political considerations are not altogether dissociated from sanitary organizations—a little knowledge may be a dangerous thing when clothed with brief authority, and is almost sure to be an obstacle to advancement of understanding or improvement of methods.

The proper function of sanitary boards in their relation to the affairs of individuals is to prohibit or abate whatever is unmistakably perilous to public health, not to assume a finality of dictation. In their supervisory capacity, it is within their legitimate province to see that architectural and engineering plans, in respect of domiciliary drainage, refuse-disposal, and other essentials for human habitation, satisfy the sanitary requirements whereon all authorities are agreed; but the diversities of opinion among experts in the constructive arts as to the best manner of mechanically satisfying these requirements, testify to the unwisdom of insisting upon particular specifications. As an abstract proposition, we may admit that a room devoid of cornice, carpet, curtains, upholstered furniture, or other lodging place for possibly infected dust, would be most easily kept in hygienic safety; it has not, however, thus far been seriously proposed to deprive luxury-loving millionnaires of their esthetic decorations and multitudinous bric-a-brac, and to confine them to four plain walls and a bare floor, with a few hard wood chairs, and an iron bedstead for all equipment—although it has been officially urged that consumptive invalids should be so unornately housed, and although, in sundry places, alcoves and other irregularities in the shape of apartments are proscribed by formal resolution, while school children are left with a hundred cubic feet of space per capita. In my own enlightened metropolis—where, by a singular exercise of legislative omniscience, the President of the Health Department must not be a physician, and the medical member of the commission is in the position of a vulgar fraction with an insignificant denominator—no unofficial citizen, be he never so skilled in sanitary theory and practice, may let his invention transcend certain established rules, though he build solely for his own residence. Some of you may remember that in the International Health Exhibition at London, in 1884, there was shown a model "sanitary house," constructed under the special joint supervision of the best known practical sanitarians in England. It is human to err, and of course no scheme can be so perfect as to escape criticism in some details; but one might at least suppose that men of such repute as Corfield, Douglas Galton, Rogers Field, and Ernest Turner, could be trusted to plan a simple edifice which would not gravely threaten the lives of its inmates. Nevertheless, one of the most competent inspectors of our Health Department told me that under the regulations of the board, the erection of such a house would not be permitted in New York. Per contra, some of the plumbing specifications inflexibly ordained in several of our cities are distrusted, if not condemned, by sanitarians abroad.

To define more clearly my meaning as regards interference in private life: While I concede the necessity of giving to boards of health discretionary control over many things which cannot be foreseen, and which "in their judgment" are "detrimental to public health," I submit that such judgment should be founded on undeniable facts, and that the "police power" of the Legislature, which is delegated to these boards for an explicitly circumscribed purpose, can equitably supersede written law only in cases of "dire emergency." I do not wish to contend for the right of the individual to injure his own health, much less to do aught which injures the health of his neighbors; but I do insist that we should be very sure that our favorite way of attempting to solve a given problem is the only safe way, before we force him to adopt it; and I more than doubt the justifiability of preventing him from eating oleomargarin or drinking skimmed milk, if he knowingly choose to do so. It should be remembered that in all sanitary legislation danger to "public health" is the fundamental reason and excuse for official intervention. With this in view, domiciliary intrusion may be requisite to abate conditions which can extend their baleful effects to the surrounding population; a pardonable latitude of interpretation may enable us to protect minors and other persons incapable of protecting themselves from manifestly deleterious influences, forasmuch as the future, if not the present, sanitary welfare of the community is therein concerned; but ours is not a paternal government, and the widest liberty of judgment and action consistent with public safety is the birthright of every citizen.

It is everywhere the tendency of humanity to exaggerate possibilities into probabilities, and probabilities into certainties, and in this country, more than in most others, there is an intolerance of dissent, inherited, perhaps, from the early Puritanical settlers, whose claim to rule themselves included incidentally power to rule everybody else. The average American is loth to accept other people's ideas; but when he evolves from his inner consciousness one of his own—whether it concern total abstinence or the public necessity of hops in beer, the cruelty of putting a turtle on its back or the morality of theatrical posters, the encouragement of charlatanism or the suppression of cigarettes—is usually impelled to rush incontinently to his State Legislature with a Bill to compel all his compatriots to live according to his private opinions; and if there be enough of him to suggest a captivable "floating vote" or an opportunity for "protection" of some local industry, the chances are that his Bill will become an Act, with an amendment authorizing the construction of a railway from nowhence to nowhither, or the incorporation of a politically assessable "trust." As a result, we have a statutory hodge-podge, going too far in one direction, not far enough in another; here dividing inseparable duties between antagonistic bureaus, there imposing incongruous obligations upon a single department; leading sometimes on the one hand, to inefficiency, and on the other, to an excess of authority little short of despotism.

The sanitary duties of the State to the public consist in protecting the purity of soil, air, water, and food, and guarding against the propagation of preventable disease, as far as may be practicable. In urban communities, these duties involve drainage, paving and cleansing of streets, an adequate system of sewerage and scavenging, and a sufficient and wholesome water supply, as well as the supervision of food-purveying and the abatement of certain nuisances. In most cities, however, the principal parts of municipal hygiene are assigned to independent boards, organized chiefly for the benefit of practical politicians and contractors. Drainage, like the snakes in Ireland, is conspicuous by its absence; with a very few honorable exceptions, our pavements are examples of what should be avoided, and their cleansing is left to the casual operation of natural laws; sewerage and the ultimate disposal of sewage are oftener productive of mischief than of safety; scavenging affords an unearned increment of income to numerous exiles from verdant Erin or sunny Italy; and of the sources of water supply to many of our municipalities, if the reports of chemists and inspectors are to be believed, the less said the better, out of consideration for the sensitive susceptibilities of "teetotallers." In these matters, sanitary advice is seldom sought, and if proffered, is commonly unheeded.

The dangers from the aggregation of dead bodies in cemeteries and consequent pollution of soil, air, and often of water supply—especially in rapidly growing communities where habitations of the living extend around burial-grounds—have been too often exposed to need recital here; but these are usually chartered evils, hedged about by popular sentiment, and beyond the direct control of boards of health, unless the harm which ought to have been prevented has actually and irremediably occurred. We have not even the statutory limitations of the area and depth of graves and the intervals of reopening, which exist in nearly all European countries; nor can we enforce the salutary provision that when cemeteries are abandoned they shall not be used for dwelling places.

On the other side of the question, boards of health are in many instances charged with, or voluntarily assume, functions foreign to their proper purpose. The examination and licensing of practitioners, and the direction of the curricula of medical schools, howsoever desirable in themselves, pertain to curative rather than to preventive medicine, and would be more appropriately allotted, as they are in older countries, to another department of the State than that which is created to preserve people in health, not to prescribe their treatment when they are ill.

In the registration of vital statistics, again, boards of health are burdened by legislative action with details which in no wise belong to them. The sanitarian is interested in learning how many children of each sex are born, and, in a composite population like ours, the race or nationality from which they spring. He may even take an indirect and somewhat sentimental interest in their legitimacy or illegitimacy, but he cares nothing for their names or those of their parents. He wishes to know the number of deaths at different ages and the causes thereof, as far as the more than occasional incertitude of diagnosis can yield such information; the occupations and local habitations of the decedents also are useful items for his calculations; but with their pedigrees for two or three generations he has no more business than with their bank accounts. All these genealogical particulars, which serve only for the identification of the individual, are of exclusively forensic purport, needful to decide litigations about inheritance of property, and, therefore, of value to citizens with pecuniary expectations and poor relations, but have no more connection with public health than the legal technicalities of drafting a will or framing an indictment. And yet, to enable boards of health to perform such inappropriate work, the already overtaxed physician is often called upon to collect personal biographies and family histories, under penalty of fine or imprisonment if he fail in his capacity as an amateur census taker. If he attend a charity patient in parturition, he is expected to record the names, ages, birthplaces and occupations of both parents, the mother's maiden name, and sundry other domestic circumstances, and, unless an immediate agreement be reached as to the baptism of the infant, to make future unremunerated visits in order to report its prænomen. Similarly, after his professional services have been brought to a close by the death of a client, he is held responsible for the completeness of the record of that client's birth, parentage, social condition, length of residence in his or her last abode, the number of persons living under the same roof, and divers collateral formalities which are equally impertinent, in addition to certifying the cause of the demise. To cap the climax of irrelevancy, sanitary bureaus are required to register full, true and particular accounts of all persons entering the estate of wedlock, for which accounts they are empowered to exercise compulsion on clergymen and magistrates, notwithstanding that in the State where this enactment originated neither a civil nor a religious ceremony is necessary to constitute a lawful marriage, and that the Act which imposes such clerical eccentricities was titularly one "for the preservation of the public health."

Aside from the evident injustice of demanding from medical practitioners unpaid services outside of their vocation, some of the methods adopted tend to defeat their own purposes. For the registration of births reliance has been virtually placed upon the obstetrician alone; but in the population at large nearly half of these events occur without medical attendance, under the covert auspices of unqualified midwives as ignorant of law as of physic, or frequently among pluriparæ of the poorer class, with no extraneous aid beyond that lent by an obliging neighbor. These commonly escape registration and render our records worse than worthless, because misleading. Even with the elaborate machinery of the Health Department of the city of New York, the published birth-rate is so far below the mortality that if it had the slightest pretense of accuracy, philanthropic statisticians would regard with dismay the approaching extinction of the native population. Despite the energy and industry of the registrar, despite the pains and penalties threatened for all derelictions, it is probable that at least 30 per cent. of the natality is consigned to oblivion. Obviously, to secure full returns, we should have recourse, in the case of a birth, to the parents or custodian of the child; in the case of a death, to the undertaker or other person conducting the funeral, who, as a condition for obtaining a burial permit, must present the stipulated form of record, including the medical certificate. If the registration of marriages is to be attempted at all under the inconsistent legislation of some of our States, it should be transferred to a different recording department, and could not then be made complete unless the bridegrooms and brides, for the benefit of whom and of their prospective offspring it is intended, report their connubial contracts.

Another usurpation of authority which seems to me to be quite indefensible is the ordinance, enforced by many boards of health, compelling physicians to report all cases of infectious disease occurring in their practice. In New York, especially, this conflicts with a State law which forbids the revelation of any information obtained in medical relations with a patient, and places the practitioner between the horns of a dilemma involving a suit for damages if he make the report, or a heavy fine if he do not. Moreover, the popular fear of forcible bureaucratic invasion leads to concealment of contagious cases, without medical care, and thus, perhaps, to an increased morbility, if not mortality, from the very maladies which it is desired to limit. Nor is this popular fear altogether unfounded, in view of the proclivity sometimes shown by sanitary officers to interfere in questions of diagnosis and treatment. Cases of measles have been sent to small-pox hospitals; remittent has been officially pronounced yellow fever, and the patient removed to a public institution; a physician of high standing has been imprisoned without process of law for differing in opinion from a sanitary inspector as to the nature of an ailment; and other less glaring intrusions into the domain of private practice have been annoyingly frequent. Among ignorant or economical people, cases of measles or scarlatina, unless very severe, are often carried to convalescence under purely domestic management; mild attacks of diphtheria are unrecognized, or treated with the traditional red flannel bandage and somebody's patent throat-lozenges; variola has repeatedly been hidden from observation until its extension forced it into notice; comparatively few cases of enteric fever in poor neighborhoods are brought to professional recognition until infection of the environment has already happened. It is, of course, of great consequence for the public safety that early notification of the existence of infectious disease should be given; but with regard to both efficiency and equity the onus of giving this information should rest upon the householder or head of the family in which it exists. The State has a right to declare that none of its residents shall knowingly conceal upon his premises a source of peril to the community; it has no right to force a visiting physician to violate professional confidence or to act as an unsalaried detective.

The demonstrated association of microzymes with a few communicable maladies has suggested the possibility, perhaps the probability, of their association with others in which they have not yet been detected, and the borders of the prophylacteries of the bacteriologists have been enlarged to cover all infectious, and peradventure some non-infectious, disorders, under the somewhat halting syllogism: Bacteria are found in some diseases; the diseases in which bacteria are found are infectious; ergo, all infectious diseases must be caused by bacteria; and to confer plausibility on the *petitio principii*, the same microörganism—as, for instance, the staphylococcus pyogenes—is credited, or debited, with the production of several different ailments. Hence has arisen an almost acrimonious controversy as to whether a disinfectant must necessarily be a germicide, or whether an antiseptic sterilization of the medium, or a chemical neutralization of the ptomainal product of fermentation, may serve the same purpose. In spite of the logic of past experience the formerly vaunted virtues of copperas, carbolic acid, and the milder metallic chlorides and sulphates are now denied; iodoform is falling into worse than its original bad odor; sulphur dioxide is beginning to be distrusted; and discussion waxes warm over the comparative merits of peroxide of hydrogen, chloride of lime, beta-naphthol, hydrofluoric acid, fluosilicates, benzoate of methyl, mercuric ethyl, mercuric chloride or iodide, cyanide of mercury and zinc, and a daily increasing host of other micro-murderous substances, with a decided preference for the most violently toxic among them, until, even in surgery, it is becoming a delicate task to draw the line between antisepsis and homicide.

The discovery of the tubercle bacillus has so filled the minds of many pathologists as to ex clude the question if there may not be an antecedent morbid condition which produces a habitat for the microphyte, and arguments apparently pointing to the influence of heredity or other etiological factors are met by the hypothesis that the bacillus may be implanted at or before birth and remain latent for years, nay, through an entire generation; and the morphological twinship of this bacillus with that found in leprosy is used, not in hesitation as to its specific pathogenic power, but to erect a family relation between the two diseases. But even if we were surer than we now are of the bacteriological causation of tuberculosis, its abolition by municipal ordinance would hardly be practicable. The majority of wayfaring poitrinnaires have not had a careful physical examination and skilled diagnosis of their disease, and have neither the means nor the inclination to carry about with them patent disinfecting pocket spittoons; factory operatives, despite what they consider as "a bad cold," will continue as long as possible to earn a living for their families; much of our clothing will be made by phthisical tailors and sempstresses; chronic consumptives will resort to churches, theatres and hotels; we ourselves shall send patients by "palace cars" and "ocean greyhounds" to other climates; and indiscriminate expectoration will probably defy sanitary precept as it has long defied social objurgation. Furthermore, since tubercle bacilli are found also in the fæces and urine, the detrusion of either of these excretions, save in distant disinfected solitude, must be prohibited to satisfy the fastidious bacteriomaniac.

The little explored field of the pathology of the lower animals gives glimpses of the ancestry and evolution of some of the diseases of mankind, and may in time furnish much help to preventive medicine. Already we have learned that cattle are subject to tuberculosis, and we suspect that the *materies morbi* is often conveyed to man through their milk or meat; indeed, according to the researches of Dr. E. F. Brush, human tuberculosis has nowhere prevailed until after the introduction of milch cattle, But, unfortunately, these animals frequently present no recognizable symptoms of the malady with which they are afflicted, and the diagnosis can only be made post-mortem—a method scarcely within the permissible scope of dairy inspection. The investigation of the "Hendon" epizootic, and subsequent observations, indicate the possibility that scarlatina may arise from an eruptive disease of the cow, though whether this disease is contracted from human patients, or spontaneous in the brute, is a question for further inquiry. The alleged susceptibility of the domestic mouse to the scarlatinal virus may likewise have some bearing upon the occasionally mysterious appearance of the disorder; that dogs and cats may transport the infection, even if they do not suffer from a modified form of the exanthem, is an accepted doctrine. Diphtheria affects several genera of animals, notably barnyard fowls and pigeons. We know, if not the primal origin, the proximate sources of glanders, hydrophobia, anthrax, actinomycosis; we have become acquainted with the Oriental filaria sanguinis and its transference to drinking-water by the mosquito; with the canine echinococcus and the porcine cysticercus; we are still debating whether the hog gets trichinæ from the rat, or *vice versa;* cases of entero-colitis in infants and infectious aphthæ in adults have been traced to "foot and mouth disease" in kine; profound anæmia is induced by the anchylostomum duodenale, the embryos of which lead an independent aqueous existence, undergoing various changes of form and habit; the distomum hæmatobium passes through multitudinous transformations, and inhabits temporarily the bodies of fish, molluscs, or small crustaceans, before it can excite hæmaturia or "Egyptian dysentery" in the human system; and, beyond these grosser parasites, we may yet learn that the contagia of other diseases have their intermediate hosts and transitional modifications.

From the vegetable as well as from the animal kingdom, some already known, and mayhap some yet unknown, pathogenic elements may invade our diet, and, to an extent commensurate with our actual knowledge, sanitary administration is justified in controlling the public food supply. The sale of diseased food may properly be stopped —with a saving clause touching *paté de foie gras* and its epicurean congeners; decomposing food may be condemned (except, perhaps, in the case of "high" game suppers), because we know something, and are daily learning more, of the alkaloids of putrefaction; adulterations come within our ken if they be directly or indirectly injurious to health, but mere trade frauds, such as the admixture of flour with mustard, or chicory with coffee, fall more fittingly under the jurisdiction of statutory law, which is quite competent to deal with them. I cannot agree with an acquaintance of mine in the public sanitary service who, being himself a dyspeptic, classes foods according to their comparative digestibility, and holds that strawberries should be declared dangerous to public health because they give him urticaria.

So with regard to the abatement of nuisances, of which the sanitary and legal definitions differ widely. The latter includes anything which impairs the enjoyment of life *and property;* the former concerns only things which may be deleterious to the health of the community, and cannot by the most forced construction be made to comprise the inconvenience of cock-crowing or piano-practice. Noxious trades should be controlled and, if necessary, suppressed, by sanitary authority, but an odor from a manufacturing process may be disagreeable without being dangerous to health, and in such case the remedy lies elsewhere.

Waning time admonishes me to curtail a list of examples which might be extended almost indefinitely, but I have perhaps said enough to support the conclusion forced upon me by study and experience, which is this: Sanitary administration, like all other governmental intervention in a free country, can be legitimately exercised alone for the welfare of the community, interfering with the individual only when his actions imperil his neighbor. Bearing always in mind the limitations of our present knowledge, our sanitary regulations should be cautiously based upon established truths, and executed with scrupulous discretion. The position of health officer should everywhere be a career, not an episode, and for this he should be specially trained, and his tenure of office should depend solely on his efficiency. For the real advancement of hygiene, the people themselves must be educated to coöperate with us for their own good; every avoidable attempt at coercion arouses opposition and retards the end we have in view.

In these propositions I may be at variance with some enthusiastic sanitarians for whose conscientiousness of opinion I entertain the greatest respect; but I believe that I shall have the concurrence of the majority of the profession and of the intelligent public.

MEDICAL PROGRESS.

SUGARS AS DIURETICS.—An interesting communication on this subject is made by DR. MEILACH as the result of experiments performed in the therapeutical laboratory of the Cochin Hospital. Lactose and glucose are the most powerful diuretic sugars. These may be termed renal diuretics; injected in the veins of animals they produce no increase of pressure, and no corresponding alteration of pulse when ingested by man. Diuresis is produced without the appearance of the lactose or glucose in the urine; these substances are consumed in the organism, and thus we have physiological medicaments serving at the same time as food; they possess an advantage over caffeine in producing no nervous derangement. The discharge of urine exceeds the quantity of fluids ingested, the diuresis being produced by a kind of dehydration of the blood. The diuresis reaches its maximum in cases of dropsy, of cardiac or cardio-vascular origin, when the urine contains no albumen, though it is also considerable when a small amount of albumen is present. Lactose is active only in the form of glucose, which is therefore nature's form of the medicament. Lactose is administered in the proportion of 100 grm. to 2 litres of the excipient; glucose in the proportion of 200 grm. of the syrup to 75 or 100 of the excipient; 150 grm. of glucose syrup produces profuse polyuria while 100 grm. is sufficient to produce a well marked effect. The grape cure is applicable to the same class of cases as those in which glucose is given, and it is believed that its diuretic effects are due in great part to the glucose contained in the grapes.

SOZOÏODOL IN RHINOLOGY AND LARYNGOLOGY.—In a thesis on this subject, DR. STERN gives the therapeutical indications for this new product. He is unable to determine the particular element in the sozoïodol to which it owes its action, but he is inclined to believe that its action depends upon the grouping of the component atoms. Sozoïodol possesses the advantage over iodol and iodine of being disengaged in the organism in its organic composition and not in the form of an iodurite. Furthermore, the action of the sozoïdols may be varied in their action by combining them with various metals. The following are the indications given by Stern for the employment of the various preparations of sozoïodol in diseases of the nose and larynx:

1. Sozoïodol of sodium, readily soluble. Indicated in all cases where it is desired to obtain a general antisepsis rather than a local antiseptic action. It is also used in all cases where aqueous solutions are employed.

2. Sozoïodol of potassium, sparingly soluble. It diminishes the secretions and acts as a dessicant—it is therefore indicated in eczema. It is usually employed with talc in the proportion 1–5 or 1–6.

3. Sozoïodol of zinc acts locally as an irritant in solutions of from 1–20 to 1–50, and as a caustic in a solution of 1–5.

4. Sozoïodol of mercury acts locally as a caustic, even in a solution of 1–10. Miller affirms that a solution of 2½ parts in 100 of this solution kills the acarus in 24 minutes.

Good results have been obtained in atrophic nasal catarrh (sozoïodol of zinc 1 part, talc 10 parts), in hypertrophic rhinitis and rhinopharyngitis (sozoïodol of zinc 1 part, talc 12 parts); good effects have also been obtained in tubercular ulceration of the pharynx and larynx, and in syphilis of the nose and larynx (zinc salt 1–12, or mercuric salt 1–20). The sozoïodol should be used in the form of powder unguent, etc. Where use is made of aqueous solutions the sodium salt should be used.—*L' Union Méd.*

HAIR TONIC.—RABOW recommends the following mixture as a stimulant to the scalp.

Spts. saponis	
Aq. coloniensis āā	100.0
Tr. cinchonæ Co.	2.0

—*St. Petersburger Med. Woch.*

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TENTH ANNUAL REPORT OF THE STATE BOARD OF HEALTH OF ILLINOIS, SPRINGFIELD, 1890. REPORT ON MEDICAL EDUCATION, MEDICAL COLLEGES, AND THE REGULATION OF THE PRACTICE OF MEDICINE IN THE UNITED STATES, 1890.

The work of this Board has been looked for with much interest, especially as the executive of the Medical Practice Act of this State. It has been the subject of careful study by all interested in higher medical education. In 1879 a paper was presented to the Association at the meeting in Atlanta, in which the condition of the profession in the State at the time the Act went into effect was briefly stated, and the results likely to be realized, indicated. In 1883, at the Cleveland meeting, the work then accomplished was presented to the Section on State Medicine, and became the subject of an interesting discussion. Since the organization of this Board there have been similar enactments in other States, and the public has come to think that something can be done in the way of legislation to increase the efficiency of the profession, and thus secure for it a higher place in the estimation of the people. It must be confessed that the friends of such legislation were not very confident as to the outcome when the Illinois law went into effect in 1877. After thirteen years we think there is reason to feel satisfied with the working of this experimental effort, for such it was in the beginning, to regulate the practice of medicine, or in other words, to require evidence of knowledge and honesty as a condition to the exercise of the profession.

The law has always had a guaranty for its members in the examinations for admission to practice, and its provisions for discipline. The people are beginning to think that the interests of health and life are as important as those of property and liberty.

It is interesting to note the evident effect of this law upon the number and constitution of the profession in the State. It is certain that the population of the State has largely increased, and yet the number of persons engaged in the practice of medicine on the 1st day of January, 1890, is less than on the 1st day of July, 1877. In other words, the ratio of physicians to population has very sensibly diminished.

It also appears that a very great change has taken place in the qualification of the profession. When the law went into effect there were in the State engaged in practice 7,400 persons. Of these 3,600 were graduates from some medical college. While 3,800 were non-graduates. In other words, the graduates constituted only 48 per cent. of all engaged in practice. On the 1st day of January, 1890, the percentage of non-graduates to the whole number was only nine. From 3,800 the number has been reduced to 575.

Whatever may be the value of a diploma as an evidence of knowledge, it is morally certain that in the aggregate graduates in medicine are better qualified, are better educated than non-graduates. The discriminating power of the Board as to what constitutes a reputable medical college gives additional value to a diploma accepted by it, as an evidence of qualification.

For much of the very satisfactory results of the working of the Illinois law the profession is indebted to the Secretary of the Board, DR. JOHN RAUCH.

The report is accompanied with other matters of interest. Especially will it be a source of gratification to those of our medical friends in the State of Illinois, who served in the late war, to find such a just and graceful recognition of the service which they rendered to their country in its time of trial.

The report or history of the medical institutions of the United States and Canada will always be recognized as a work of great value, not only in Illinois, but wherever accurate information is desired concerning medical institutions and medical education. A hasty examination of it impresses us with the immense amount of work and care involved in its preparation.

It is with pleasure that we note the great degree of uniformity, especially in the Western States, of legislation upon the important subjects pertaining to public health. Should it be found possible to coördinate all these State Boards by National legislation, so as to secure, in case of common danger, uniformity of methods and wise coöperation, a very great advance would be made towards the realization of the ideal health organization.

CORDIAL WELCOME TO THE BERLIN CONGRESS.

VIRCHOW writes an interesting salutatory to the April number of his *Archiv*, which issue marks the beginning of his 120th volume. He takes occasion to welcome the medical fraternity of the whole world to the coming Berlin Congress, which he fondly hopes will lead up to permanent international good-will and concord. He frowns upon any sectional root of bitterness, and promises to do his share towards having the rights of all comers considered. He is not quite sure of a peaceful result, but he points off its eminent desirability, for he says: "Let us show that medicine ennobles men and brings them near to the ideal humanity. Let us strive together, as in war, so in peace, to heal the wounded and cure the sick, no matter to what camp they may belong; for we physicians do not make war; it is our first and fairest task to mitigate its terrors and to replace hate and discord by reconciliation and unity."

That is undoubtedly the way it should be. These are sentiments worthy of the man and of the occasion; but these conventions and congresses have a well known tendency to bring to light every little rift in the lute of medical harmony. It is worthy of notice that there is no lack of cordiality on the part of the European medical journals towards the great Berlin gathering, with the single exception of those of France. The Parisian journals are decidedly mute. Virchow does not refer specifically and plainly to this coolness among his Parisian brethren, but he endeavors to assure them, and all others, that his aims are all for science and naught for topography. It is reported that very few favorable responses from men eminent in the French profession have been received in regard to the reading of papers or participating in discussions. It is to be hoped that the cordiality of Professor Virchow's welcome may tend to thaw the crust of coolness that appears to obstruct the full and free coöperation of the convention-loving Frenchman in the grandest medical congress that has yet been convened.

BROMIDE OF GOLD IN HYSTERIA.

The investigations of BOURNEVILLE, GOUBERT and others respecting the use of the bromide of gold in epilepsy, have been supplemented by experiments with the same substance in other nervous affections. Two Russian physicians, ROZENBACH and MERZHEEVSKI, have employed it in a number of intractable cases of hysteria. *The Lancet*, April 19, summarizes from a recent issue of *The Vrach* their results with comments as to its usefulness in a certain range of cases in which the bromide of potassium had failed. The doses, at the outset, were ¼ of a grain, afterwards increased to ½ and higher. Under its influence, the attacks became milder and shorter, with increasing intervals between them; the only untoward effect reported was a moderate anæsthesia of the mouth, The drug is readily soluble in water, and keeps well if not exposed to a strong light. The drug is not an extravagantly expensive one, as the doses are relatively small as compared with the other bromides; 15 grains cost six shillings, English currency, and that amount will suffice for the ten to fourteen days, during which the experimentation with the drug will have been inaugurated. In regard to epilepsy, the use of steadily increasing doses has been followed by good effects in the hands of DR. DANILLO. He employed it in eight cases, beginning with ⅛ of a grain four times a day, and afterwards increasing the number of doses to twelve and sixteen per diem, but ordinarily 1 grain daily was the dose for an adult in the cases reported by the Russian physicians.

ONTARIO MEDICAL ASSOCIATION.—As the Provincial elections take place on June 5, it has been decided to postpone the meeting of the Ontario Medical Association to the following week. The Association will therefore meet in Toronto, on Wednesday and Thursday, June 11th and 12th.

EDITORIAL NOTES.

To our Readers.—As the reading matter forms of The Journal are printed off by Wednesday of each week, the management have thought it better not to delay this issue in order to insert an imperfect report of the Nashville meeting, but rather to publish The Journal of the 31st as early as possible during the coming week, so that by the time the members reach their homes they may receive it with as much of the report as the space at our command will admit of insertion.

It is expected that the number of medical practitioners taking part in the International Congress at Berlin this autumn will not fall short of 5,000. In view of this large attendance the idea of a general banquet has been abandoned, and each of the eighteen Sections will have its own special dinner at 10 shillings a head. The recently established Berlin Laryngological Society will also entertain the members of the Section of Laryngology.

Medical Aid to the Poor in Kazan.—The Düma (Town Council) of Kazan has just appointed four doctors to render gratuitous medical assistance to the poor of the East Russian town, which numbers about 150,000 inhabitants. They are to receive a salary of 1,000 roubles (about $500) a year, and are forbidden to engage in private practice. An allowance of 2,580 roubles ($1,290) yearly will be made by the Düma for drugs and working expenses.

Non-nauseous Antipyrin.—To mask the taste of antipyrin, Dr. Ballerny, in the *Lyon Médical*, advises the addition of an infusion of coffee, with milk, to the watery solution of the drug. Another thing that will disguise the taste of this drug is soda-water with a currant or raspberry syrup; this latter will lessen its disturbing action upon the stomach, amounting at times to a prolonged and intractable nausea.

Accidental Death of a Physician.—Dr. R. H. Cameron, of Johnstown, N. Y., lost his life April 26, while engaged in breaking in a colt at the local driving park. He was prominent as a physician, with special aptitude for ophthalmic work. He was in his forty-fifth year and had been in practice twenty years, having gone to Johnstown very soon after taking his degree at the Medical College at Albany, class of 1870. He was a member of the Fulton County Medical Society, of the State Society and numerous social organizations.

Canadian Medical Association.—The meeting of this Association for 1890 will take place at Toronto, September 9, 10 and 11. A Committee of Arrangements has been appointed, with Dr. Canniff as chairman. This Committee has met, and taken into consideration the means by which the meeting in the Queen City may be made most pleasant and profitable to the visiting brethren.

One result of Prince Bismarck's retirement will, perhaps, be a notable improvement in the eyesight of his countrymen. German oculists almost unanimously attribute the extraordinary prevalence of presbyopia and other defects of vision in the Fatherland to the use of the national blackletter type in school books. Prince Bismarck has always resolutely stood upon the ancient ways in this matter, and has opposed the substitution of the Roman for the Gothic character in German books. The party of typographical reform is now hopeful of succeeding in its object.

Mitchell District (Ind.) Medical Society.—The annual meeting of this Society will be held at Indian Springs, on the E. & R. R. R., June 12, 13 and 14. The new hotel, with accommodations for four hundred guests, will be opened June 1. Practical contributions are solicited, and titles should be forwarded to Geo. W. Burton, M.D., Chairman Committee of Arrangements, Mitchell, Ind.

Changes in Faculty.—The following changes have been made in the Faculty of the Medico-Chirurgical College. Dr. J. M. Anders transferred from Diseases of Children to Clinical Medicine; Dr. Ernest Laplace made Professor of Pathology and Clinical Surgery; and Dr. Samuel Wolfe Professor of Physiology.

Dakota Medical Society.—The ninth annual meeting will be held at Sioux Falls, South Dakota, June 12, 13 and 14, 1890. Business sessions of the meeting will be held in Odd Fellows Hall, and order will be called promptly at 2 P.M. Thursday, June 12. All regular physicians in the State are invited to be present and join the Society. Delegates from either State or local medical societies will be cordially welcomed.

TOPICS OF THE WEEK.

THE PSYCHOLOGICAL ASPECT OF MEDICINE.

Science is verging rapidly and closely to the general acceptance of a somewhat new truth, and one which I believe will even more powerfully affect our conceptions of the etiology of disease than even the discovery of the germ, viz.: that the true seat of disease is more often than we can now understand or even conceive in the centres of the brain. As we discover the functions of its various parts, we see that it is derangement here that produces the trouble yonder, which in our short-sightedness we have been calling peripheral. When we find fever we need not even now always invoke the ever useful "Malaria" as an explanation, but may oftentimes refer it to a derangement of the temperature centre. When we have convulsions we are not driven to "teething" or "derangement of the stomach" for the cause, but may look at once to the conditions of the motor centres. Increased rapidity of the heart's action is probably always due to disturbance in the accelerator centre in the medulla. So the circle widens and will probably include every function. Remembering how closely connected and how intimately related are all parts of the brain, we can appreciate how, acting upon it, a mental impress may produce an effect hurtful or remedial in any part of the body.

The complexities of the machine are marvellous and infinite.

Poetic conceptions of the human soul are giving way to physical. Need the beauty lessen? The beauty of the maiden or the rose is physical. The marvel of the human brain is as great as the marvel of the human soul. Are we not dimly conscious that the human soul is a condition of the human brain? Does not this conception bring us nearer to our fellow? Can we not better lend a hand? He who has a true and helpful conception of life has first studied deeply the workings of his own soul. Who that has writhed Laocoon-like in the folds of human passion? Who that has soared poet-like into realms of peace, and while thus writhing or soaring has taken note of himself—of his inner consciousness—has not realized how much of the physical there is in it after all. The turgid brain in passion, the tranquil brain in peace. Indeed, the terms are almost convertible. Passion is turgidity of brain; peace is tranquility of its circulation. How this view broadens the work of the physician in the field of mind! He is no true physician who has not insight. He truly, that hath it not, heals only the wounds of the body. To be a true physician one must be able to play at least a few measures upon the strings of the soul.

Faith-healing has come and gone, but left a deeper sense of the great truth, dimly conceived by the scientific mind before, that what we term mental influences may be used to produce marvelous physical results. Do you doubt the physical effect of an idea—a thought—a conception? Then brood and brood over some conception almost comparative in its character. Note the sense of fullness, perhaps of pain, that fills the brain. Then let something happen that dissipates the idea or shows the conception erroneous and note that sense of suffering—how quickly it has passed away. In an instant the tension and irritability have vanished. Tranquility of brain and mind reappears, and life moves on in happier circles.

The physician but too often regards himself but the "healer of wounds of the body." This conception is too narrow to befit either himself or his opportunities. There is a broader sense in which he may be the benefactor of his race—as an educator. His it is, if he will, first to teach the world the value of that great function inhibition—control. To show to the world that great physical fact, the relation of the centres and the incalculable value of proper order and subordination in them in the making of character. Nature, ever wise and thoughtful, in placing the organic functions in the medulla—the sensory and emotional next above and the motor and intellectual highest in the brain—has hinted to us their order. That these be masters; these servants.

I once had a curious case, the management of which was for a time beyond me. I tried medicines; influences, mental, moral, physical. Still I failed. Finally I wrote a letter in which I carefully elaborated this idea that the brain is a household of centres; some of which were servants, some masters; and pointed out the fact that in her case the servants had become masters. She recovered promptly. I flattered my medicines. Long after she said: "Doctor, it was your letter that cured me." I believed her. But I will not concede that the letter was not in the highest and best sense a medicine.

The advance in knowledge and its permeation has been so wide and deep that even the comparatively ignorant are dimly conscious that wounds of the soul are in some sense physical. Does any one to-day ask despairingly, "Who can minister to a mind diseased?" On the contrary he betakes himself to his physician, if so be that physician is a man of sympathetic insight, and opens to him his life and says, "What shall I do to save me from myself?" From the "*I*" that is consuming me?

Balzac, writing when science existed only as an infant and superstition reigned, said: "There are three great healing professions—the priest, the lawyer, the doctor. The first, stanches the wounds of the soul; the second, the wounds of the purse, and the third, the wounds of the body." How narrow this conception to-day? The pastor as a confessor has well nigh passed away. The physician has taken his place because he has been found helpful in a larger way. It has been said that one who has ever successfully practiced medicine can never afterwards content himself with any other calling. What wonder? *Is* there any other in which the contact of mind with mind is so close, or where the impact of soul upon soul is so powerful? The man of business, the lawyer, or pastor, sees but the merest surface. Uncharitableness in relation to human kind and conduct is thus to be accounted for. The physician may become a sort of recluse—he may, and probably does, permit himself to become petty and narrow in many things, especially toward his brother *medicus*—but he ever remains magnanimous in relation to human kind and conduct.

He, the earthly searcher of hearts, finds therein much of good along with the degradation and inevitable debris of life, and he learns to estimate his fellow rather by the good than by the evil he finds.

To the Greek mind, which was above all acute in its poetic conceptions and intellectual discriminations, the term Psuche or Psyche meant either soul, butterfly, or breath, thus typifying in one word the mystery, the beauty, the evanescence of mind.

In this our age, practical—unpoetic—seeking knowledge of tangible things, much of the sentiment pertaining to the human soul has passed away, yet it remains, as to the Greeks, the most mysterious, the most beautiful, the most evanescent of all created things; showing at once how real, how truthful, how lasting are poetic conceptions.—Clark Gapen in *Omaha Clinic.*

SEPTIC PERITONITIS.

Many fevers now distinguished from each other were once held to be one and the same disease. The process of pathological specialization has made such advances, on the strength of sound scientific evidence, that even the term "septic peritonitis" is now held to confound two or more distinct diseases under the same name. Learned papers on the subject are hard for any reader not an expert to follow, and experienced operators are seldom eager to acknowledge pathology and bacteriology as their chief guides. Prof. Bumm, of Würzburg, has, however, lately brought out an intelligible communication "On the Etiology of Septic Peritonitis." It will be found in the January number of the *Annales de Gynécologie.* Dr. Bumm's valuable researches into the nature of the specific germs of tubercle and other diseases are well known. He distinguished three forms of inflammation of the peritoneum: Aseptic, septic, and specific peritonitis. The first form is developed through the agency of mechanical or chemical irritation. It generally ends in fibrinous exudation, and adhesions between different abdominal structures are thus established. The septic form of peritonitis includes two distinct varieties, one due to the streptococcus, the other simply putrid. Streptococcus peritonitis appears to be a very definite malady. It is almost invariably the result of puerperal infection. The germs reach the peritoneum, from their origin in the genital canal, either through the Fallopian tubes, or through the uterine walls and surrounding lymphatics. The fluid in the peritoneum when death occurs very soon after infection is clear and free from odor, but loaded with streptococci and intensely virulent. A minim, or less, injected into the peritoneum of a rabbit will rapidly set up deadly peritonitis. The physical symptoms are little marked; the intestines are greatly distended, but their serous coat remains white and smooth, and patches of lymph are few and pale in color. When death occurs after the disease has lasted for two or three days, the fluid in the peritoneum becomes puriform and far less deadly to other organisms. The familiar morbid appearances are plainly marked.

Streptococci which are cultivated apart from the fluid developed in peritonitis are also not very deadly. No doubt, men who do not believe in germs will on that account contend that it is something which comes with the germs that causes such disastrous results. The germs do the least harm when introduced without any fluid, or when they have dwelt for some hours or days in peritoneal fluid. According to strict scientific evidence, however, it appears that the greatest harm arises from the combination of streptococci with exudation thrown out in the earliest stages of peritonitis. The streptococcus disease, as we may term it, may attack patients on whom abdominal operations have been performed, through infection which is probably always derived from a puerperal case. As a rule, however, the disease which follows abdominal sections or perforation of the alimentary canal is "putrid peritonitis." In this variety the exuded fluid is from the first fetid and turbid. It contains, not one specific germ, but a mixture of germs. It does not set up peritonitis if injected into the peritoneal cavity of rabbits in small quantities. In cases of putrid peritonitis the mixed germs lie in a favorable medium and multiply with rapidity. They then are able to set up a widespread decomposition of the fluid in the peritoneum. Hence the disease progresses slowly, going from bad to worse, whilst the streptococcus variety begins with symptoms of extreme virulence.

Of specific forms of peritonitis, the tuberculous is the most distinct. According to Dr. Bumm the existence of a gonorrhœal peritonitis is doubtful. Gonorrhœal pus poured out of a ruptured tube into the peritoneum seems to act as an aseptic fluid provided it be pure, and becomes encysted. When mixed with pyogenic germs the case is different, and septic peritonitis may follow.—Editorial, *Brit. Med. Journal.*

DOCTORS AND WINE.

Nothing indicates more plainly the healthful advances in regard to diet than the changes that have occurred in physicians themselves. Two hundred years ago, and even much later, doctors were notorious for their eating and tippling, and were generally very fat. Dr. Beddoes was so stout that the ladies called him their walking feather bed, and Dr. Fleming weighed 291 pounds until he reduced his weight by abstinence and eating a quarter of an ounce of Castile soap every night, and Dr. Cheyne weighed 384 pounds. It is said that it was during the seventeenth century, when doctors drank so heavily, that it became fashionable for them to write such illegible prescriptions, which were the result of their trembling hands. The man who remains abstemious where no liquor is to be had, does not deserve much credit, but the man who is temperate when the sparkling champagne stands beside his plate merits our approbation.

THE LAW CONCERNING HYPNOTISM IN SWEDEN.

The question whether a hypnotized person who acts at the suggestion of others is responsible for his actions is considered in Sweden to depend upon the fact whether he knew of the danger to which he exposed himself in being hypnotized, and submitted to it voluntarily. If so, by the law of that country, he is held responsible, otherwise not.

SOCIETY PROCEEDINGS.

The Illinois State Medical Society.

Fortieth Annual Meeting held in Chicago, Illinois, May 6, 7, and 8, 1890.

(*Concluded from page 733.*)

Second Day—Morning Session.

Dr. C. W. Earle, Chairman of the Committee of Arrangements, announced that immediately after adjournment at noon, the Society would repair to Kinsley's, where a lunch would be tendered to visiting members by the Faculty of the Post-Graduate School of Chicago.

THE REPORT OF THE COMMITTEE ON SURGERY

was then read by its Chairman, Dr. F. C. Schaefer, of Chicago.

In scouring the field of surgery, said Dr. Schaefer, we are compelled to admit that antiseptic surgery is an established fact. Very few surgeons at the present time have the hardihood to treat wounds without some pretensions to antisepsis. *Sterilized lint.* M. Regnier recommends lint sterilized at the temperature of 248° F. for surgical dressings, having himself used it in many operations of various kinds with as good results as with antiseptic dressings. A surgical dressing may be antiseptic, and yet not germicidal. It is then inhibitory in its action, it prevents the germs from passing through it into the wound, and such qualities Lister claims to have found in the double cyanide of mercury and zinc, and by means of experimentation he has succeeded in preparing a gauze charged with the double salt. He says the double cyanide requires about 3,000 parts of blood to dissolve it. If, therefore, it is present in a gauze in the proportion of about 3 per cent., you will easily understand that blood serum may soak through such a gauze time after time without washing the ingredient all out; so that it is a material which is admirably stored up in the dressing. That is one of its three great advantages, the others being that while trustworthy as an antiseptic it is completely unirritating, and under this we find that not only do wounds, the edges of which are brought accurately together, unite beautifully by first intention, but even granulating sores heal by the gradual process of cicatrization from the edges—heal by scabbing in a way that we have never seen under any other dressing.

The Surgical Treatment of Typhlitis.—The operation should not be performed until all inflammatory and other symptoms have quite subsided. The incision should be made obliquely from above downward and inward over the cæcal region, its lower extremity ending just external to the epigastric artery. The incision should not be made directly over the appendix or over the dullest region. If it be so placed a number of adhesions will probably be encountered, and the demonstration of the peritoneal cavity might be difficult. The cæcum or the appendix might be actually adherent to the anterior abdominal wall. The incising of the peritoneum should, therefore, be conducted with the very greatest care. It is well that the parietal cut should open the abdomen at a point just beyond the diseased area, and where no adhesions exist. When the appendix and cæcum are exposed, the area of the operation should be cut off from the general abdominal cavity by sponges. If this plugging with sponges be well carried out, no blood should enter the peritoneal space. All adhesions should be divided by cutting; none should be "broken down." The latter measure is apt to tear the bowel, or, at least, to bare it of peritoneum. The appendix should be lightly clamped close to the cæcum, and should be divided about ½ inch from that intestine: it should not be secured by a simple ligature. The mucous membrane should be united by many fine sutures, or by a continuous suture; then the divided outer walls of the process should be brought together by a second row of sutures—it is practically impossible to bring the serous coats together. To still further secure the orifice, the stump of the appendix might be lightly attached to any adjacent surface of the peritoneum. The abdominal wound should be closed; no drain is required. (Treves.)

Perityphlitis vermicularis always belongs to the province of surgery, and the following two points are proven: 1. That perityphlitis is always accompanied with a pus cavity. 2. That with the present plan of treatment the patient is more liable to a recurrence of the disease. (Murphy and Lee.)

Other subjects upon which Dr. Schaefer commented at length were: herniotomy, bone surgery, gastrostomy, gastroenterostomy, etc.

Dr. J. A. Freeman, of Millington, read a paper on *Harrison's Operation for Enlargement of the Prostate Gland*, which was followed by a contribution by Dr. Geo. N. Kreider, of Springfield, entitled

SURGICAL AND MECHANICAL THERAPEUTICS IN DISEASES USUALLY TREATED BY MEDICINES ALONE.

He presented the following conclusions.

1. That mechanical and surgical measures are the most certain in our armamentarium and are only now assuming their proper position.
2. That when called to see a case of disease the first aim of the practitioner should be to determine by proper examination and research whether some mechanical or surgical appliance cannot be used in conjunction with or in place of medical treatment.
3. That the "do something" which this ac-

tion implies will be more uniform in its results, more successful in its curative effects, and more pleasing to the patient than the "think something" treatment which tries every medicine by turns and nothing long, and hopes for beneficial results.

4. That the ability to use exact appliances for the examination of patients and treatment of disease should be possessed by every one attempting practice, and that this ability is only to be obtained by preliminary training and clinical instruction.

5. That treatment of disease in this manner has a tendency to elevate the profession in the eyes of the public, and to dissipate nonsensical sects which divide the profession and waste its energies.

MALIGNANT DISEASES OF THE RECTUM.

The general discussion on this subject was opened by **Dr. D. W. Graham**, of Chicago, who made some remarks on *clinical diagnosis.* Dr. Graham said we have a certain group of symptoms common to almost all organic diseases of the rectum. These consist of interference with the function of the bowel, more or less diarrhœa, watery in character, more or less blood and mucoid discharges mixed with fæcal matter, this condition alternating with constipation. Pain is present; there is a general disturbance of health, as well as a disturbed mental condition peculiar to this region. Along with these symptoms we may have tubercular or the ordinary dysenteric ulceration of the rectum, with cicatricial contraction resulting. We may have the results of true syphilis present, the ordinary gummy deposit and the so-called syphilitic inflammation of the rectum, which causes the deposit and ulceration and thickening. The age of the patient is an important aid to diagnosis. The disease usually develops during or after middle life. A few cases, however, are on record where the disease developed in people of 20 years of age.

Palliative Treatment, by **Dr. E. P. Cook**, of Mendota. The indications for palliative treatment of malignant diseases of the rectum were to maintain the permeability of that portion of the intestinal canal and the solubility of the fæces, to prevent the accumulation of fæces above the diseased parts, to secure a free passage of fæcal matter and gases from the gut, to retard and arrest development of the disease, and to relieve pain.

Dr. C. Truesdale, of Rock Island, spoke on palliative operations and their relative merits. He said a constant result of malignant disease of the rectum are more or less stricture and resulting obstruction to the passage of fæces. The first palliative operation resorted to is usually urethral or rectal bougies, for the purpose of dilating any stricture or strictures which may exist. When the conclusion is reached, however, that an operation for a radical cure is inadmissible, the less we meddle with the rectum the better. The only thing worthy of trial, in his opinion, is an occasional irrigation with some warm antiseptic solution, such as warm carbolized water, the latter acting not only as an antiseptic, but also as a sedative.

Dr. John E. Owens, of Chicago, dwelt upon the radical operations and their relative merits. The operative treatment for cancer of the rectum may be briefly considered under two heads, viz: Firstly, colostomy, or the establishment of an artificial anus, or some modification of the operation for diverting the fæces from their passage through the rectum, and thus dispensing with this portion of the bowel as an active organ; secondly, proctectomy, ablation, or excision of the rectum. Proctectomy is confined to the lower portion of the bowels. If not attended by an undue mortality, or followed by great disadvantages, it should take its stand as an established procedure. During the last two or three years Dr. Owens has advised all patients who have been operated upon for cancer to report to him every thirty days. In this way recurrence of the disease can be dealt with promptly.

SENILE PROSTATIC ENLARGEMENTS.

The discussion on this subject was opened by **Dr. Edmund Andrews**, of Chicago, who illustrated his remarks. Dr. Andrews was followed by Dr. A. E. **Hoadley**, of Chicago, who discussed in an able manner the indications for supra-pubic and perineal method of approaching the prostate for operation.

What are the Recognized Methods for Removing Prostatic Obstructions? was the subject of Dr. C. Chenoweth, of Decatur.

Dr. A. B. Strong, of Chicago, read an interesting paper on *The Results of Operations for the Removal of Prostatic Obstruction.*

AFTERNOON SESSION.

Renal Calculus.—The diagnosis was discussed at length by Dr. I. N. Danforth, of Chicago; the operation by Dr. J. Frank, of Chicago.

Perityphlitis.—*Diagnosis* was discussed by Dr. E. W. Lee, of Chicago; *operative treatment* by Dr. Frank Andrews, of Chicago; *when to operate*, by Dr. J. B. Murphy, of Chicago. Dr. Murphy said Deahna operated on seven cases in which there was neither fluctuation nor phlegmon in the abdominal wall, and in only one case did he fail to find pus. He was satisfied that there was almost entire absence of induration in this case, and could not be certain that pus was not present before making an operation. He operated from the ninth to the twenty-first day from the onset of the attack. In one case he failed to come directly on the abscess, but the pus emptied itself through the wound on the second day afterward. Usually at the end of the fourth day symptoms of general peritonitis subside, and there can be felt a slight induration in the right iliac region; then is the time to operate. Dr. Murphy called attention to cases where there is only a small induration in the ileo-cæcal region, with the accompanying symptoms of perityphlitis, before there is the slightest evidence of fluctuation or phlegmon in the abdominal wall. It is difficult to give the exact indications for the proper time to operate when the symptoms are slight, for both the patient and the surgeon are reluctant to resort to operative interference. As yet the number of cases operated on have been too small to lay down any definite rule, notwithstanding it is Dr. Murphy's conviction that before many years every case of perityphlitis, when diagnosed, will be immediately opened, the appendix ligated, if possible, and amputated. This operation gives the only guarantee that the patient can have of safety from the impending danger of the disease and security against its return. It must be remembered that in making the examination the greatest caution should be exercised in palpation and percussion, as he knew from experience in making autopsies that slight pressure can rupture the adhesions and the whole contents of the pus cavity escape into the peritoneum.

Treatment of Wounds.—This subject was opened by a brief paper read by Dr. D. A. K. Steele, of Chicago, on the relative value of the different suture materials. He said that in selecting a suture material we are guided by the light of modern surgical pathology to select a material that is surgically clean, a substance that, by suitable preparation and preservation, has been rendered aseptic, *i. e.*, incapable of containing within itself microörganisms that would carry infection from *without* into the tissues of the body. By a rigid adherence to this rule we are enabled to emulate Marcy and close an aseptic wound by an aseptic suture aseptically applied.

The best method for preservation of the different suture materials until required for use, was discussed by Dr. E. W. Andrews, of Chicago.

What is the best method of to-day for preventing infection of operative wounds? was the subject of Dr. L. L. McArthur, of Chicago. As patient, operator, instruments, sutures, and dressings may, any one of them, be a source of infection, Dr. McArthur devoted his attention to each. He ventured the statement that one-half of the primary wounds under the present methods are dressed aseptically at the time of operation, and then only become infected at the re-dressing. Operators under excitement are inclined to drop into careless habits and proceed somewhat after the following fashion: They call for a questionable basin, and dropping into it an indefinite amount of carbolic acid, proceed to remove the dressings without any such formalities as we were satisfied were essential at first. Here is where the fallacy lies to-day. Too great carelessness at the redressing, permits infection, and encourages the sceptical in the belief that there is nothing in the principles of aseptic surgery. Before the old dressing is removed a stream of 1-1,000 should be ready and playing on the inner layer of gauze as it is being removed and during the time of exposure of the wound. Having rendered the parts clean, they can best be kept so by providing in addition to the regular dressing, a heavy dressing of absorbent cotton, not with the idea of catching discharge, but with the object of filtering the atmosphere which is to gain access to the wound through the dressings.

On motion the Society adjourned and immediately repaired to Kinsley's, where a lunch was tendered by Dr. C. T. Parkes, of Chicago.

Third Day—Morning Session.

Dr. S. S. Bishop, of Chicago, read a paper on *Menthol in Diseases of the Air Passages.* He had used it considerably in a variety of diseases, and believes its remedial properties entitle it to an important place in the work of general practitioners and specialists alike. A 5 or 10 per cent. solution is as strong as patients generally will bear without discomfort.

Dr. E. F. Ingals, of Chicago, read a paper on *Stricture of the Œsophagus*, which he says is met with more frequently in men than in women, and usually occurs in early life. It is not infrequent among children, and a few congenital cases have been observed. Strictures resulting from swallowing hot or acrid fluids are usually found at the upper part of the tube just back of the cricoid cartilage. Next in frequency is the lower portion of the tube near the cardiac orifice of the stomach. The stricture may be single or multiple. He reported thirteen cases.

Dr. John E. Rhodes, of Chicago, read a paper on *Anosmia.* He said no treatment has been suggested that will relieve a case of *true* anosmia. If dependent upon local conditions, as deformity of nasal structure, excessive hypertrophy, or nasal polypi, surgical measures may result in complete or at least partial relief.

REPORT OF THE COMMITTEE ON OBSTETRICS.

This report was presented by the Chairman, Dr. J. S. Miller, of Peoria, which was a résumé of recent progress. It was followed by papers on *The Logic of Progressive Midwifery*, by B. H. Harris, of Groveland, and the *Parturient State*, by Lucinda H. Corr, of Carlinville.

Dr. W. E. Casselberry, of Chicago, read a paper on *Adenoid Hypertrophy in the Naso-Pharynx.* He said in multiplicity of cases, gravity of consequences, facility of operative treatment, and brilliancy of results, the disease which is invariably known as adenoid hypertrophy in the naso-pharynx, may be said to outrank any other affection of the upper respiratory tract. For pronounced hypertrophy the only satisfactory method of treatment is removal by surgical means.

THE REPORT OF THE COMMITTEE ON GYNECOLOGY

was next called for, and was presented by the Chairman, Dr. L. A. Malone, of Jacksonville. Dr. Malone gave a résumé of the work done in gynecology as offered through the medium of medical journals, societies, monographs, etc.

Dysmenorrhœa.—Most happy results have been gained by the use of the steel dilator in this affection, dilating the cervix from three-fourths to one and one-fourth inches, antiseptic precautions having been taken. Goodell has employed this treatment in 322 cases without any serious mishaps, and with almost invariable and permanent relief.

Tubes and Ovaries.—Abdominal surgery has been in the past few years a fertile field for operation. The sacred precincts of the peritoneal cavity, which but a few years ago, none but the boldest dared to enter, has now become the fit arena for even novices to operate. Since Lawson Tait electrified the world by his wonderful successes, emulators have become numerous everywhere. There is scarcely a hamlet in the United States to-day where may not be found at least one who has opened a woman's belly and erected a tombstone to the memory of his daring. All sorts of mental disturbances and neuralgias have been made a pretext for the operation. Dr. Malone had seen normal ovaries offered as a justification for their removal, the patient being a hystero-epileptic.

Dr. Eliza H. Root, of Chicago, read a paper on

CONSTIPATION AND ITS RELATION TO PELVIC DISEASE IN YOUNG WOMEN.

Constipation, long continued, gives rise to a train of symptoms that present themselves for relief in the daily practice of every active physician; nor does he find any one cause of ill health so difficult to remove. It is an active factor in the production of pelvic disease in women; for, where endocervicitis and even retroversion exist, rapid improvement is made as soon as constipation is relieved. The causes of constipation are varied and arise in childhood from faulty diet, dress, and neglect of elimination. It occurs at the time of puberty when the transition from girl to womanhood gives rise to faulty nutrition and consequent relaxation of all the body tissues. Pelvic disease results from constipation through pressure. The filled and distended sigmoid flexure and rectum press upon blood vessels, nerves and muscles, exerting direct and reflex influences upon the functional activity of the whole economy. Dr. Root reported three interesting cases.

AFTERNOON SESSION.

Dr. Mary H. Thompson, of Chicago, read a paper entitled, *A Few Interesting Cases in Gynecology*, which was followed by a contribution on *The Prevention of Puerperal Mastitis*, by Dr. Ellen M. Heise, of Canton.

Dr. F. H. Martin, of Chicago, read a paper on

HYSTERECTOMY IN MALIGNANT DISEASES OF THE UTERUS.

The operator reported five successful cases operated upon during the last year. His conclusions were: 1. Seek to make an early diagnosis of this dread disease. 2. When the diagnosis is made operate early, selecting vaginal hysterectomy as the operation calculated to give the best results. 3. The legitimate future immediate mortality of this operation in the hands of experts will be as low as high amputation. 4. The ultimate curative results with vaginal hysterectomy must of necessity be the best that it is possible to obtain by operative procedure. 5. Vaginal hysterectomy is indicated in *all* cases of cancer of the uterus, where it seems possible to get beyond the diseased tissue. 6. Choose the open operation; ligate the base of the broad ligament with strong silk and secure its upper two-thirds with lock forceps.

Dr. D. A. K. Steele at this juncture exhibited a patient upon whom he had operated for osteosarcoma of the right scapula.

THE REPORT OF THE COMMITTEE ON DRUGS AND MEDICINES

was read by Dr. John A. Robison, of Chicago. Dr. Robison took for his subject the Treatment of Phthisis Pulmonalis. He said that the therapeusis in each case must be planned according to the patient, his social relations, his environments, his wealth, and the judgment of the physician. He presented for consideration the hygienic, climatic, medicinal, dietetic, and surgical treatment of the affection. Under the head of hygienic treatment he tabulated the following means: Respiration exercises, or deep breathing; breathing pure air; gymnastic exercises; sufficient rest and sleep; daily baths; dressing properly. With regard to the climatic treatment, he said that the practice of sending patients away indiscriminately is deplorable, as each case must be carefully studied, and the resort chosen according to the individual temperament, stage of the disease, wealth, and social habits of the patient. A mountain climate is advisable in all cases when there is threatened phthisis with a strong hereditary predisposition, or when there is poor thoracic development. The warm and moist climates, such as the sea-coast or sea voyages, are most suitable for phthisical patients of an excitable and nervous type, or those suffering from insomnia or bronchitis. The warm and dry climates are best suited to sufferers from phthisis who have heart disease or albuminuria. Surgically there was every reason to believe that drainage antiseptically of lung cavities will be successfully done in the future. Denison, of Denver, reports several cases in which drainage promoted cures.

Other papers which were read are as follows: *Opium in Disease*, by Dr. C. E. Davis, of El Paso; *Catalpa Speciosa*, by Dr. J. Schneck, of Mt. Carmel; *Relation of Eye Strain to Headache and other Nervous Affections*, by Dr. F. C. Hotz, of Chicago; *Empyema of Antrum of Highmore*, by Dr. R. Brown, of Chicago; *Treatment of Posterior Turbinated Hypertrophy*, by Dr. A. E. Prince, of Jacksonville; *Correction of Slighter Forms of Astigmatism*, by Dr. Gardner; of Chicago; *Relation of Nasal Diseases to General Disturbances of Health*, by Dr. H. Gradle, of Chicago; *Diseases of Children—Diphtheria, Intestinal Obstruction*, by Dr. R. J. Mitchell, of Girard; *A Rational Method of Treating Rotary Lateral Curvatures of the Spine*, by Dr. Charles F. Stillman, of Chicago.

OFFICERS FOR 1891.

President, Dr. J. P. Mathews, of Carlinville; *First Vice-President*, Dr. C. C. Hunt, of Dixon; *Second Vice-President*, Dr. F. C. Schaefer, of Chicago; *Permanent Secretary*, Dr. D. W. Graham, of Chicago; *Treasurer*, Dr. T. M. McIlvaine, of Peoria; *Assistant Secretary*, Dr. Geo. N. Kreider, of Springfield.

On motion the Society adjourned to meet in Springfield, third Tuesday in May, 1891.

DOMESTIC CORRESPONDENCE.

The Conference of Medical College Delegates.

To the Editor:—The recent communication of Dr. Davis seems to indicate his belief that there is a possibility, perhaps a probability, of very little good arising from the conference of Medical College Faculties to be held in Nashville. I, at any rate, greatly fear that the attempt will not soon give us a graded compulsory course of three years in all colleges.

The truth is this: The only way to have a high standard of education in all medical colleges, is for each medical school to raise its own standard without waiting for other schools to do likewise. Corporate morality is subject to the same laws and rules of growth as personal morality. So soon as a merchant becomes convinced that to put a 1 lb. label on ⅞ of a lb. of tea is wrong, so soon as he believes that to sell a mixture of terra-alba and sugar for pure sugar is immoral, so soon must he cease to thus wrong the public. His evil doing begins at once when he *knows* he is doing an immoral thing; he cannot wait until all other merchants agree in solemn convention that they will refrain from such fraudulent practices. The same rule applies to medical schools. Just as soon as the college officers believe that a two years' course is a degradation to the school, and a fraudulent and inefficient method of educating physicians, they are forced by the moral law to the immediate adoption of a better method.

The attempt to postpone the right action until all do likewise is unphilosophical, immoral and a stultification of conscience. Let each Faculty, which believes in a three years' course, raise the standard to that which is now adopted by all first-class institutions, and let every man who believes in justice to the public, and the necessity for a three years' curriculum, refuse to hold position as Professor, Lecturer, or Demonstrator in any two year school. The question will thus be at once solved. The slaughter of the innocents arising from the manufacture and sale of short weight physicians will only be stopped by such decided action on the part of persons and of institutions.

We have heard for years resolutions enough; let us now have conscientious action on the part of men and schools. Respectfully,

JOHN B. ROBERTS.

Philadelphia, May 12, 1890.

The International Medico-Legal Congress of 1892.

We have received the following communications from Clark Bell, Esq., of New York, with a request that we publish them:

Office of the President of the Medico-Legal
Society of New York,
No. 57, Broadway, N. Y., March 31, 1890.

Hon. James G. Blaine, Secretary of State, Washington, D.C.

Dear Sir: I have the honor to enclose a circular we are sending in the English, French, German and Spanish languages, to the various countries of the world, asking coöperation with the International Medico-Legal Congress, which will be held in 1892 in this country.

Its first session was held in June, 1889, of which I send the preliminary transactions and roll of delegates.

The French circular enclosed shows the officers at this moment, and as Vice-Presidents for the various countries are announced, they will be added to those already appointed. Inspection of the names of the eminent men, who have already lent their names to this project, emboldens me to request the countenance of the American Government, to this movement in aid of this science.

Among foreign peoples, the knowledge of the approval of the Home Government, is of vast consequence to the success of scientific endeavor.

The aid, lent by the French Government, to the Scientific Congresses in Paris last year, gave an enormous impetus and importance, to that wonderful success, which added new lustre to the glory of France.

We do not desire any pecuniary assistance, from the Government of the United States.

The letters you so kindly sent me last summer were of enormous value to me, in interesting eminent men of science, in the countries of Europe in the movement.

Such a letter of sympathy, with the objects and purposes of our present endeavor, as you can give, will I think be of great value, and will in many countries, especially the Spanish speaking countries on this continent, be of commanding importance.

I am, sir, with high personal regard,

Very faithfully yours, CLARK BELL.

Department of State, Washington,
April 17, 1890.

Clark Bell, Esq., President of the Medico-Legal Society, No. 57, Broadway, New York City.

Dear Sir: I have received your letter of the 31st ultimo, enclosing copies of circulars which you are sending to the various countries of the world, inviting coöperation for the Congress, which will be convened in 1892 in the United States, for the discussion of medical jurisprudence.

The importance of such a gathering as you propose cannot, it would seem, be overestimated. The intelligent discussion of scientific questions, especially those which so closely affect the human family, by a body of gentlemen learned in medico-legal science, must prove of especial value, and should be worthy of every effort, which has for its mission the amelioration of the condition of mankind. My individual sympathy in the objects and purposes of your conference is very great, and I trust that the results of such a meeting as you propose, may correspond, to the aims you have in view, as I have no doubt they will. I am, dear sir, very truly yours,

JAMES G. BLAINE.

INTERNATIONAL CONGRESS.

Tenth International Medical Congress.

By direction of Count Arco, the German Ambassador in Washington, the Consul General of the German Empire in New York, Mr. A. Feigel, sends the following, with the request that the medical and secular press of the country give it the greatest possible publicity. It will be noticed that this circular contains a great many particulars not contained in those previously printed.

CONDITIONS AND RULES REFERRING TO THE INTERNATIONAL MEDICAL AND SCIENTIFIC EXHIBITION IN BERLIN, AUGUST, 1890.

1. The Exhibition will be opened 11 A.M., August 2, 1890, and closed, probably, August 11, P.M., in the Landesausstelungs Park; the Sections of the International Medical Congress will meet in the same place.

Provisions will be made for dark chambers, rooms for experimental purposes, and appropriate demonstrations by experts.

The Exhibition is limited to the following objects: New or improved scientific instruments and apparatuses for biological and strictly medical purposes, inclusive of those for photography and spectral analysis applicable to medicine. New pharmacological, chemical and pharmaceutical materials and preparations. New foods. New or improved instruments for operations in medicine, surgery, special branches, electrotherapy, etc. New plans and models of hospitals, convalescent homes and establishments for disinfection and bathing, arrangements for nursing and transport. New hygienic apparatuses. New tables and charts of a statistical nature. Preparations and models. Teaching apparatuses. Medical literature.

Applications are expected before May 15, 1890,[1] and will be received by the Secretary General of the Congress, Dr. Lassar, Berlin N.W. Karlstrasse 19. They must be marked "Ausstellungsangelenheit" and accompanied with a printed visiting or business card containing name and address.

2. Of each application there ought to be two copies. It is requested that it should contain a brief and accurate description fit to be used in the compilation of the catalogue.

3. The decision as to the admission of all or part of the proposed exhibits rests with the special or general boards of organization; they will send an immediate reply.

4. The cost of every square metre or part of a square metre of floor or table surface is 10 marks, of wall surface 6 marks. Two (2) metres in height of the wall are free for those adjoining the wall. Exhibits in the interior of the hall pay for one-half of the size of the walk immediately surrounding, in addition to the space occupied.

5. Tables will be furnished. Cases, shelves, repositories must be procured by the exhibitors under the supervision of the Committee. Electric light, steam power, etc., can be had by special arrangement.

6. Inflammable objects are excluded. Insurance of those admitted will be secured free of cost, if notice of their value have been given.

7. Packing and unpacking is free of expense to foreigners. Great care will be taken, but no responsibility. Expressage by Messrs. Jacob und Valentin, Berlin O. Holzmarktstrasse 65.

8. The exhibits must be delivered on or before July 20. Foreign goods will be free of duty, but certificates—to accompany the goods—ought to be obtained from the exhibition office, Karlstrasse 19.

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[1] Count Arco has made such arrangements that applications coming from the United States will be received until the first of July.

FORM OF APPLICATION.

The undersigned, being acquainted with the conditions and rules referring to the International Medical and Scientific Exhibition in Berlin, August, 1890, requests admission for the following exhibits:

Space wanted: { Floor surface, length . . . breadth . . .
{ Wall surface, breadth. . . height . . .
Exhibition will take place
(a) In own case: Adjoining the wall?
Inside?
(If the latter, add a diagram.)
(b) On tables to be furnished by the committee:
In flat cases?
Exposed without them?
On shelves?
The wall surface above the table is required to the height?
(c) On the floor, without case, etc.
(d) As drawings, diagrams, or in narrow cases attached to adjoining walls?
Value for insurance purposes . . . . . .
Special requests . . . . . .
Brief notes for catalogue . . . . . .
1890. . . . . *Name, etc.*

The German Minister, Count Arco-Valley, has requested Dr. William Pepper, of Philadelphia, to announce to the medical press that he has written to Berlin to have the time for the reception of entries for the International Medical Exposition, in connection with the Medical Congress, extended so that those coming from the United States may be received after May 15.

MISCELLANY.

Official List of Changes in the Stations and Duties of Officers Serving in the Medical Department, U. S. Army, from May 10, 1890, to May 16, 1890.

By direction of the Secretary of War, the following named officers are detailed as delegates to represent the Medical Department of the Army at the annual meeting of the American Medical Association, to be held at Nashville, Tenn., May 20, 1890: Col. Jedediah H. Baxter, Chief Medical Purveyor; Major Alfred A. Woodhull, Surgeon. The officers named will proceed to Nashville at such time as will enable them to reach there on or before May 20. Par. 4, S. O. 107, A. G. O., Washington, D. C., May 7, 1890.

Col. Edward P. Vollum, Surgeon and Acting Asst. Medical Purveyor, is granted leave of absence for two months, with permission to go beyond the sea, by direction of the Secretary of War. Par. 10, S. O. 109, A. G. O., Washington, D. C., May 9, 1890.

By direction of the Secretary of War, Capt. Henry Johnson, Medical Storekeeper, now on duty at the Medical Purveying Depot, New York City, will take charge of that Depot, and perform the duties of Col. Edward P. Vollum, Surgeon and Acting Asst. Medical Purveyor, during the absence of the latter. Par. 11, S. O. 109, A. G. O., Washington, D. C., May 9, 1890.

By direction of the Secretary of War, Capt. Charles B. Ewing, Asst. Surgeon, is relieved from duty at Washington Bks., D. C., and will report in person to the commanding General, Dept. of the Missouri, St. Louis, Mo., for duty as attending surgeon at those headquarters. Par. 8, S. O. 110, A. G. O., Washington, D. C., May 10, 1890.

Capt. Andrew V. Cherbonnier, Medical Storekeeper, is granted leave of absence from June 1, to include October 1, 1890, by direction of the Secretary of War. Par. 4, S. O. 110, A. G. O., Washington, D. C., May 10, 1890.

Lieut.-Col. Charles C. Byrne, Surgeon, is granted leave of absence for four months, with permission to go beyond sea, to take effect on or about June 1, 1890, by direction of the Secretary of War. Par. 3, S. O. 110, A. G. O., Washington, D. C., May 10, 1890.

By direction of the President, and in accordance with Section 1,246, Revised Statutes, an Army Retiring Board is appointed to meet at the War Department, in this city, at 11 o'clock A.M., on Wednesday, May 14, 1890, for the examination of such officers as may be ordered before it. Detail for the Board: Lieut-Col. Anthony Heger, Surgeon; Major Charles R. Greenleaf, Surgeon. Par. 6, S. O. 110, A. G. O., Washington, D. C., May 10, 1890.

By direction of the President, the Army Retiring Board convened at Ft. Leavenworth, Kan., by War Dept. order dated May 10, 1887, published in S. O. 107, May 10, 1887, from Hdqrs. of the Army, is dissolved, and War Dept. order dated April 26, 1890, published in S. O. 99, April 28, 1890, from Hdqrs. of the Army, directing Capt. John de B. W. Gardiner, Asst. Surgeon, to report to the President of the Board for examination, is revoked. Par. 10, S. O. 111, A. G. O., Washington, D.C., May 12, 1890.

By direction of the Secretary of War, First Lieut. Charles F. Mason, Asst. Surgeon, now on leave of absence, will report in person to the commanding officer of Ft. Logan, Col., for temporary duty at that station. Par. 7, S. O. 113, A. G. O., Washington, D. C., May 14, 1890.

By direction of the Secretary of War, Major Henry M. Cronkhite, Surgeon, is relieved from station at Little Rock Bks., Ark., and assigned to duty at Ft. Lewis, Col., at which post he is now on temporary duty. Par. 10, S. O. 113, A. G. O., Washington, D. C., May 14, 1890.

By direction of the Secretary of War, Major William H. Forwood, Surgeon, is relieved from duty at Ft. Snelling, Minn., and will report in person, on the 27th inst., to the Governor of the Soldier's Home, D. C., for duty as attending surgeon at the Home. Par. 11, S. O. 113, A. G. O., Washington, D. C., May 14, 1890.

Official List of Changes in the Medical Corps of the U. S. Navy for the Week Ending May 17, 1890.

Surgeon B. S. Mackie, ordered to the practice ship "Constellation." May 15.

Asst. Surgeon C. H. T. Lowndes, ordered to the practice ship "Constellation." May 15.

Official List of Changes of Stations and Duties of Medical Officers of the U. S. Marine-Hospital Service, for the Three Weeks Ending May 10, 1890.

Surgeon W. H. H. Hutton, detailed as chairman of Board for the physical examination of officers for the Revenue-Marine Service. April 25, 1890. Detailed as chairman of Board for the physical examination of cadets, Revenue-Marine Service. May 9, 1890.

Surgeon George Purviance, detailed as recorder of Board for the physical examination of officers of the Revenue-Marine Service. April 23, 1890.

P. A. Surgeon S. D. Brooks, when relieved at Savannah, Ga., to proceed to Cleveland, O., and assume command of the Service. May 1, 1890.

P. A. Surgeon P. M. Carrington, as soon as physically able, to proceed to Savannah, Ga., and assume command of the Service. May 1, 1890. Leave of absence extended twenty days on account of sickness. May 3, 1890.

Asst. Surgeon G. M. Magruder, detailed as recorder of Board for the physical examination of cadets, Revenue-Marine Service. May 9, 1890.

Asst. Surgeon J. J. Kinyoun, to proceed to Wilmington, Del., on special duty. May 6, 1890.

Asst. Surgeon A. W. Condict, granted leave of absence for eight days. April 12 and 22, 1890.

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ADDRESSES.

ADDRESS ON GENERAL SURGERY.

Delivered at the Forty-first Annual Meeting of the American Medical Association, at Nashville, Tenn., May, 1890.

BY SAMUEL LOGAN, M.D.,

OF NEW ORLEANS, LA.

It may be positively asserted that more progress has been made in the Science and Art of Medicine during the last fifty years, than in all the centuries which had elapsed since our profession broke loose from the apron strings of the priesthood and escaped the confines of the barber shop. If this may be truly predicated of our profession in general, the branch of Surgery exhibits this progress in a more recognizable degree than the other chief division, or that of the Institutes and Practice of Medicine I use the words recognizable degree in order to expressly disclaim any intention of assuming that we surgeons are any further in advance than our *confrères*. We are mutually dependent, and must move along the same general line. But our work is more apparent, and hence our progress is more recognizable. We are more than mutually dependent bodies—we are, and we should, for our mutual benefit, never forget the fact—one and the same in our essential aims. It is only for the better accomplishment of these essential common aims that we march in separate detachments. Let us ever keep within hailing distance or disaster will surely overtake us.

Let us also remember that our profession in its entirety is both a science and an art, or if we prefer to so express it, an art based on a correlative group of sciences, consisting of Chemistry, Anatomy, Physiology and Pathology. No true progress can be made in either medicine or surgery unless based on facts and principles derived from these sciences. At every step in our advance we must test our position and take our bearings in accordance with their teaching. Modern methods of thought demand this of us, and it is our boast that we, as a class, are fully abreast, if not in the lead, of modern thought in its rigidly scientific methods. The palmy days of brilliant medical theorists have forever past. No great intellect, with vivid imagination and plausible poetic personality, may now fire the enthusiasm of a horde of followers as he spins some beautifully ingenious theory with attenuated threads of intellectual gossamer wrought out from his own "inner consciousness." If a scientist ventures now to launch forth some fondly nurtured "theory," he is evidently half ashamed of himself, and apologetically christens his bantling a "working hypothesis" only. Modern medicine demands facts—thoroughly tested facts—not theories. Yes, thoroughly, scientifically tested facts are what we require for our guidance in the practice of art. First establish the facts, and the law, or generalization, or theory, if you choose, spontaneously crystalizes around these facts. It is in this direction that the intellect of the civilized world now finds its field of intense and unremitting labor; and it is solely to this fact that we owe the marvelous progress characterizing the social evolution of our age. No class is more imbued with this "spirit of the age" than that we represent; for we recognize the principle that it is only in this way we can strengthen our hands and our brains for the better practice of our art in our efforts towards the amelioration of mankind. Hence, our colleges and our hospitals, our chemical, physiological, pathological, and microscopical laboratories; hence, our specialization of different departments of medicine, our local, State and general societies, and last, but not least, our wonderfully enterprising, laborious, painstaking and brilliant periodical literature, unequaled by that of any other profession. What would we do without our medical journals? Without their aid how could I now stand before you and invite your attention to a consideration of some of the "burning subjects" specially occupying the surgical mind since our last meeting in general conclave?

One of these subjects of commanding importance is that of

GENERAL ANÆSTHESIA.

After prolonged and painstaking trials of many volatile agents we may take it as an established fact that two of the earliest introduced—sulphuric ether and chloroform—have excluded all the others from the field; and the practical question is now presented to each graduate in surgery:

Under which of these two banners shall you enter the fight against the pangs and the pains of necessary chirurgical proceedings? He finds the profession more or less distinctly divided on this subject. In a hitherto futile effort to decide the points of difference a vast amount of labor has been expended. Clinical statistics have accumulated to enormous proportions; and experimental researches involving much careful scientific work have been prosecuted. But, notwithstanding all this, the profession has remained divided as to which agent should be used. In order to test the truth of the alleged greater danger from chloroform anæsthesia, a carefully conducted series of experiments were recently instituted in India, under the auspices of a commission appointed by, and at the expense of, the Nizam of Hyderabad, whose enlightened liberality, thus evinced in the cause of scientific medicine, might well be emulated by the authorities of some communities who claim to represent a higher grade of civilization. This commission—under the *of Surgeon-Major Lawrie, of the British* y—devoted special attention to the assertion chloroform was the most dangerous agent account of its greater liability to produce death by sudden heart syncope. The conclusion they reached was, that when chloroform was pushed to a fatal result, it "always arrests the respiration before the heart."

This seems to have proved a perfect bomb shell the ranks of the ether-philites. Our Medical 'hunderer," *The Lancet*, would admit no such on. The liberal Nizam of Hyderabad ished the means for another set of experiments, inviting *The Lancet* to send a representative to join in the labors of the second commission; and the distinguished Dr. T. Lauder Brunton consented to go. The other members of the commission were Surgeon-Major Lawrie, Dr. G. Bumford, and Dr. T. Rustamji Hakim. They worked at the problem for nearly two months, and after sacrificing 70 monkeys and 360 dogs in the noble cause, they reached the same conclusion as the first commission. This conclusion was unanimous; for, be it noted to the honor of Lauder Brunton, he was not ashamed to knowledge that his former teaching had bee tirely erroneous.

To those who have preferred chlorofor be particularly interesting to observe practical deductions drawn from the r the numerous and varied experiments this commission, agree in the main so m with the almost universally recognize which have been adopted as the result of ence in the use of this agent in surgery—the imperative importance of which can be h too much emphasized. The following is a condensed statement of these coincidences tween the more important "practical conclusions" of the commission and the accepted rules for the administration of chloroform.

1. The dorsal recumbent position should be adopted throughout, if the operation admits of it, and if not, this position should be immediately resumed as soon as there is "any doubt whatever about the state of the respiration."

2. No pressure should be allowed by tight clothing, holding the patient down, etc., on neck, chest or abdomen, so as to produce the slightest impediment to free respiration.

3. A thorough dilution of the chloroform vapor with air must be secured from the beginning and to the end. Hence, no complicated inhalers need be used, the napkin simply folded into an open cone best insuring this result. I, myself, do not even approve of the little piece of absorbent cotton inside, preferring to pour the chloroform on the side of the inner surface of the cone, and to leave the opening in the top perfectly free.

4. The administration should be very gradual in the beginning. This method is not only more agreeable to the patient, but prevents the struggling and holding of the breath, which are apt to be accompanied or followed by such deep inspirations as to tend to the reception of an over dose. In this respect the manner of producing anæsthesia by chloroform should radically differ from that appropriate when ether is being used. Chloroform should be given largely diluted and very gradually, ether rapidly and almost undiluted.

5. Should the patient hold his breath from any cause his first succeeding inhalation should be of pure air, or at least very slightly impregnated with chloroform; for the simple reason that this inspiration will be so deep as to take in too large a dose at a time, and thus violate what I would designate as the golden rule in chloroform anæsthetization; namely, the very gradual introduction of the agent into the lungs and the circulation.

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Surgeon George Purviance, detailed as rec

for the physical examination of officers of

Marine Service. April 23, 1890.

P. A. Surgeon S. D. Brooks, when relieved

Ga., to proceed to Cleveland, O., and assun

of the Service. May 1, 1890.

P. A. Surgeon P. M. Carrington, as soon as

able, to proceed to Savannah, Ga., and as

mand of the Service. May 1, 1890. Leave

extended twenty days on account of sick

3, 1890.

Asst. Surgeon G. M. Magruder, detailed as re

Board for the physical examination of cadets,

Marine Service. May 9, 1890.

Asst. Surgeon J. J. Kinyoun, to proceed to Wiln

Del., on special duty. May 6, 1890.

Asst. Surgeon A. W. Condict, granted leave of

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will be willing to thus entirely ignore the circulation. The eye can watch the respiration and the finger at the same time take frequent cognizance of the pulse stroke, as has been the universal custom hitherto. The two duties are not incompatible, and surely the careful noting of the frequency and character of the pulse must be of no little precautionary service.

8. "If anything interferes with the respiration in any way, however slightly, even if this occur at the very commencement of the administration, if the breath be held, or if there be stertor, the inhalation should be stopped until the breathing is natural again." This important injunction has long received the endorsement of those experienced in the use of chloroform.

9. "If the breathing becomes embarrassed, the lower jaw should be pulled or pushed from behind the angles forward, so that the lower teeth protrude in front of the upper. This raises the epiglottis and frees the larynx. At the same time it is well to assist the respiration artificially until the embarrassment passes off." And, "If, by any accident, the respiration stops, artificial respiration should be commenced at once, while an assistant lowers the head and draws forward the tongue with catch forceps, by Howard's method, assisted by compression and relaxation of the thoracic walls, etc." These propositions are in the main quite in accordance with established usage.

10. The previous administration of alcohol, the commission say, may be resorted to "provided it does not cause excitement, and merely has the effect of giving a patient confidence and steadying the circulation." This plan was generally adopted by the late Warren Stone, of New Orleans, and many of us still follow his example, especially with those who are debilitated from any cause.

11. It has also been customary with some to give a dose of morphine hypodermatically ten or fifteen minutes in advance. This has also met the approval of the commission. It would seem reasonable that this should not be done unless the fact be known that the patient does not belong to that rather numerous class who suffer severe after-nausea from morphine.

The commission concludes that there is nothing to show that atropine does any good, and that "it may do a great deal of harm."

As a final conclusion the "commission has no doubt whatever, that, if the above rules be followed, chloroform may be given in any case requiring an operation with perfect ease and absolute safety, so as to do good without the risk of evil."

Pretty positive words! And could the busy practitioner of surgery accept with unquestioning faith the deductions thus positively drawn, after painstaking and able experimental research, by those well worthy of our confidence, the question of choice would be settled.

But hardly had the report of this commission fairly reached the general mass of the profession before Drs. H. A. Hare and H. C. Wood published the results of experiments made by them; and these results directly contradict those obtained by the Anglo-Indian Commission. The American experimenters assert that "though 450 pariah dogs in India have died of respiratory failure, an equal number in America have died of cardiac arrest; whilst the records of clinical medicine show that death in the human being from chloroform usually takes place either by primary arrest of the heart or by simultaneous arrest of the heart and the respiration, while in etherization the respiration usually ceases distinctly before the heart's beat."

In this conflict of statements, what are we to say? Shall we assert that all this conscientious work has been in vain, since such opposite conclusions are reached by equally reliable investigators? We trust not. Rather let us hope that further and still more thorough investigations may be the result; and, more important still, let us hope that as an aid to the settlement of this *questio vexata* every case of death under and after the use of either agent shall be carefully noted in all its details, and faithfully recorded in the journals. After all it seems to the speaker that a final settlement of their respective merits can only be reached through such clinical studies faithfully recorded. Some consider that the question has been so settled in favor of ether; but this is denied by large numbers of experienced and able surgeons, and by them such a statement as that in the latter portion of the last quotation (from the American experimenters) is regarded as a *petitio principii*. They deny that clinical records "show that death in the human being from chloroform usually takes place either by primary arrest of the heart, or by a simultaneous arrest of the heart and the respiration, while in etherization the respiration usually ceases distinctly before the heart's beat."

It must be remembered, too, that there are other points to be settled besides the question of sudden death during anæsthesia. If it be granted, for the sake of argument, that chloroform anæsthesia affords a larger proportionate number of sudden deaths, it has yet to be determined to what an amount this ratio must be discounted by the number of deaths attributable to the asserted more serious after effects of etherization, particularly in the stomach and the kidneys. It will be extremely difficult to settle this matter by statistics. The sudden deaths are promptly credited to the agent used; the subsequent deaths may be just as certainly due to the effects of the anæsthetic, but are often attributed to other causes. At least such is the belief of a large number of competent surgeons, who still think that chloroform is the preferable agent, and who maintain that in the long run it is just as safe as ether, if used with the same caution demanded when we employ any really efficient agent in medicine. Is it not a law, indeed, that our most efficient agents are really most dangerous when handled carelessly? The simple fact, then, that chloroform is the most dangerous anæsthetic is no more an argument for its abandonment than the fact that opium and its alkaloids should be discarded because they are the most dangerous anodynes and narcotics. Electricity is the most dangerous and powerful form of energy. Shall we therefore abandon its use? Rather increase our endeavors to the better control of it for useful purposes. Those who use chloroform admit it to be the most powerful anæsthetic, just as opium is the most powerful anodyne; but they believe it can be so controlled as to safely subserve the purposes of -thesia. Have these recent experiments engthened their position, or not? I will not esume to answer the question, but refer the matter to a "committee of the whole" of our profession, with the repeated suggestion that a continued careful clinical study of the subject, with a conscientious record of the cases, should be considered the binding duty of every operator who uses either agent.

It may be appropriate to also suggest that the sertion of Ostertag, published quite recently *Deutsche Medizinal Zeitung*, Jan. 16, 1890), to the effect that late deaths in animals from prolonged administration of chloroform resulted from fatty degeneration of the myocardium induced by it, is worthy of further investigation. Deferred deaths from chloroform are, however, very rare; but, nevertheless, everything possible bearing on this important subject should command careful consideration.

LOCAL ANÆSTHESIA.

Not a little excellent work has been done during the year in the way of more exactly defining the qualities and uses of the more recently introduced therapeutic agents; and as illustrative of this fact we note that poisoning by the local use of cocaine has been carefully studied by Dr. A. Wolfler. As a result he has drawn the following practical conclusion: "In small operations on the extremities or trunk a gram of a 5 per cent. solution may be safely injected; whereas in the face, with the exception of the mouth and throat and the hairy scalp, more than two centigrams should never be used." (*Wiener Med. Woch.*, No. 18, 1889.)

ANTISEPSIS.

As a result of his indefatigable labors in this Prof. Lister presents a new antiseptic for our namely, a double cyanide of zinc and mer- Its advantages are claimed to be superior to any antiseptic hitherto used in the following particulars: It is non-volatile, unirritating, insoluble in water, but soluble in 3,000 parts of blood serum, and a solution of 1 to 1,200 is sufficient to keep animal fluids permanently free from putrefaction, "though it possesses but little germicidal value;" but this defect is remedied by using in the preparation of the gauze a solution of 1 to 4,000 of bichloride, "enough to be germicidal, but too weak to be markedly irritating." Prof. J. W. White has used it with satisfaction, and a description of the method of preparing the gauze will be found in the *American Journal of Medical Science* for January, 1890, p. 82. Anything coming from such a source, and with such American endorsement, should receive our careful consideration.

A thoroughly efficient antiseptic for general use without irritative qualities is certainly a desideratum; and if this proves to be such an agent surgery will owe another debt to the great apostle of scientific surgical cleanliness, which is the sum and substance of antiseptic surgery.

And in this connection it will be appropriate to notice the admirably practical researches recently made by Assistant Surgeon Joseph Kinyoun, and embodied in a report published by the Marine-Hospital Service in its "Weekly Abstract of Sanitary Reports" (Vol. iv, No. 47). It is on the subject of "Microörganisms in Finger Nail Dirt," and specially deals with the danger lurking about the finger nails of hospital nurses. The subject well merits the closest investigation, and is of vital importance not only to the surgeon but to the obstetrician, not only in hospital service but in private practice. If the statement made some years ago by a distinguished gynecologist, that many a woman's death warrant was carried to her under the finger nails of her medical attendant, be true, what need we not fear from the ignorant, and not infrequently grossly uncleanly nurses outside as well as inside of hospitals? Dr. Kinyoun, in this report, gives startling confirmation of these most reasonable fears. Permit me to quote briefly from a synopsis of his report to be found in the *New Orleans Medical and Surgical Journal* for February, 1890, p. 591:

"The examinations were so timed as to take the nurses when they were making or assisting in dressings, or just before an operation. In all twenty-seven nurses were examined, and of these only two carried no microörganisms in the dirt under their finger nails." Again: "A careful bacteriological examination was made of the walls and tables with which the hands of the nurse had not come in contact, and in no instance were there any pus organisms found. Whereas, on the other hand, the articles which were used by the nurse, such as irrigating tubes, basins, etc., including coverings to surgical dressings, gave pus microorganisms."

How are we to avoid these unseen dangers? The report deals with this question by the following experiments: After the hands of all the nurses had been thoroughly washed with soap and warm water, they (the hands) were "infected" with staphylococcus pyogenes aureus, then scrubbed well with soap and warm water, then treated for six minutes with alcohol containing (1 to 3,000) bichloride, then in bichloride solution (1 to 500), (1 to 1,000), (1 to 1,500), (1 to 2,000), (1 to 2,500), respectively, for another six minutes, and then neutralized in the usual manner. The Esmarck tubes made from the nail scratchings of the hands subjected to (1 to 500), (1 to 1,000), (1 to 1,500), remained sterile, but in the others there were many colonies of staphylococcus pyogenes aureus.

Let us hope that so important a matter will attract the attention of other bacteriologists. Should these examinations be confirmed, we will be able to congratulate ourselves on the possibility or soon having it in our power to formulate definite rules for our guidance in such matters.

DRESSING OF WOUNDS.

Some very remarkable statements in regard to the "Dry Method of Wound Treatment" have been made by Dr. Lauderer, of Leipzig, in an address before the German Congress of Surgeons. He asserts that he has had primary union in ninety consecutive cases, many of great importance, as resections, amputations, etc. No fluid is allowed to touch the wound. Dry aseptic gauze is used in place of moist sponges and irrigating fluids, and pieces of the gauze are simply applied to the wound.

The advantages claimed are as follows: 1. *The patient is not exposed to wet and cold.* 2. The loss of blood is minimal. 3. Absorption of antiseptics is not possible. 4. Time of operation is decreased. 5. Rapid recovery, only one dressing being necessary, and that only if non-absorbable stitches are used. 6. Saving of surgeon's hands.

The speaker has employed this method in a limited number of cases, and so far with satisfactory results.

The question of drainage or no drainage in wounds is still *sub judice*, with able advocates on both sides; but the majority of surgeons still incline to its judicious use in all cases where perfect asepsis is uncertain, and where the surfaces cannot be kept supported in absolute and continued juxtaposition. A recent paper read before the Société de Chirurgie (*L'Union Médicale*, May 9, 1889), by Jules Boeckel, is worthy of note in this connection. He reports the results of thirty-three major operations treated without drainage, with only two deaths, and these not attributable to anything connected with the technique of the operations, one case dying from pneumonia and the other from tubercular meningitis. Some of these cases were such as would seem specially to require drainage; as, for instance, a case of resection of the knee and one of amputation of the breast, with the removal of axillary and supra- and infra-clavicular glands, with division and suturing of the clavicle to admit of the removal of these glands. He sometimes puts in what he calls a "pseudo drain" made of a pencil of iodoform. Generally one dressing sufficed.

SURGERY OF THE HEAD AND SPINE.

During the last twelve months there seems to have been started a rather conservative reaction from the hopeful tone given to cerebral surgery by the combined influence of antiseptic procedures and the more or less successful study of the subject of functional brain localization. Progress in a new field is apt to be carried, by the very enthusiasm which insures success, beyond the bounds of prudence, necessitating a halt and a careful survey of the new ground freshly conquered. In the new cerebral surgery this survey is now being made. Bergmann's work on the "Surgical Treatment of Diseases of the Brain," very recently issued, is an able exponent of the present attitude of surgical thought in this regard. Time does not permit an adequate consideration of this very interesting and important matter, but I may be permitted to call your attention to a few points illustrative of the general tendency alluded to, which I cull from a review of the above named work in THE JOURNAL of this Association for August 31, 1889. He warns very strongly against opening the skull, "unless a definite diagnosis has been made" in supposed abscess of the brain.

Again: "The author is much less hopeful regarding surgical relief for tumors of the brain. The tumor may be diagnosed, but it may be difficult to locate it definitely. It is also impossible to determine whether it can be enucleated, and, if this is possible, whether or not it will recur." In the 100 cases of tumor collected by H. White, only "nine might have been relieved by surgical operations, but of these seven could not have been diagnosed on account of their location. In cases in which a tumor cannot be located definitely, exploratory trephining is not justifiable. Aside from the possibility of not finding the tumor there are two great dangers, viz: hæmorrhage and secondary œdema. All of these principles are confirmed by clinical histories of cases observed by himself or others."

And yet, on the other hand, a tendency has been shown by certain eminent alienists to induce us to extend the field of operative cerebral surgery in a new direction. In an able editorial in THE JOURNAL of this Association for February, 1890, allusion is made to a case, reported by Dr. T. C. Shaw, of general paralysis of the insane, in which trephining and incision of the dura mater was practiced. This was done under the conviction—confirmed by Ferrier, who was also consulted in the case—that there were irritative processes in the upper layer of the convolutions, with later pressure symptoms; and as nerve stretching (suspension?) had proved beneficial in ataxia, brain stretching—that could only occur by increasing its space for expansion—would relieve the pressure of the cerebral fluid and diminish the arterial tension that the sphymograph has shown existent in such cases.

Mr. Harrison Crippe made an opening one and a half inches long by three-quarters wide and cut the dura mater, when "considerable quantity" of subarachnoid fluid escaped. By the tenth day the wound had healed, and no cerebral symptoms had been present after the operation. Though there was but slight improvement in the bulbar symptoms, those of *folie de grandeur* no longer existed. The patient was seen by Dr. Clifford Allbut, who agreed with Dr. Shaw that the man was no longer insane.

The editor continues the subject by mentioning somewhat analogous proceedings in a case of syphilitic paresis, previously reported by Tuke, who saw it in consultation with Dr. Muirhead, in which "the hallucination ceased for five days," but relapsed and recurred, and no benefit resulted. But in this case the opening was not so large as in the other, and no attempt at drawing off the subarachnoid fluid was made, "an omission that Dr. Tuke would have remedied had the case remained under his care."

As might have been expected, this rather radical departure from the usual hopeless programme in the treatment of such cases has been promptly met with opposition and condemnation on the part of other alienists, and to this department of our profession we as surgeons must mainly leave the decision, only endorsing the concluding portion of the editorial from which I have derived the above facts, *i. e.:* "But the gentlemen associated in these two cases occupy positions that entitle them to a respectful hearing from the profession, and the operation must be condemned, not by theory, but practice."

"A suggestion, supported by the report of a very successful case, as to the repair, by transplantation, of osseous defects in the skull after trephining, comes from Dr. R. Jaksch (*Wiener Med. Woch.*, No. 38). He used, with every antiseptic precaution, the skull bones of a gosling a few days old. He purposely left the wound open in order to observe exactly what occurred, and was certain that 'vitality was preserved in the bone plates, and that the ossification of the opening in the skull proceeded from them. The transplanted bone plates effected an organic connection with the surrounding parts.'" (JOUR. AM. MED. ASS., Dec. 14, 1889.)

It is not improbable that we will find it best as a rule, in transplanting operations in general, to select our materials from the tissues of the young animal, where, it is reasonable to suppose, the more active proliferating tendencies characterizing all the nutritive processes at that period of life would favorably effect the graft.

The subject of surgical intervention in diseases and injuries of the spinal column and cord has for some years been attracting a large share of interest. Stimulated by the successes achieved by Horsley, Macewan and others, in cases sometimes of apparently desperate character, many others have entered the field and are prospecting it with some success; but sufficient clinical data have not yet been accumulated on which to formulate definite rules. Good work, however, is being done by able hands, which cannot but result in a more successful management of these most distressing cases. At the last meeting of this body the matter was well handled by the Chairman of the Surgical Section, Dr. N. P. Dandridge, of Cincinnati, in his address to the Section, and Dr. J. William White, of Philadelphia, read an able paper on the same subject. Allingham has since reported two cases of operation in cases of injury (*Lancet*, June 1, 1889), and published his views in relation to the points still under discussion, in the following general terms: He believes "1. That by trephining it is evident that inflammatory ascending changes are prevented. 2. That no bad symptoms follow from opening the dura mater and allowing the cerebro-spinal fluid to flow out. 3. The operation, although tedious, is not a difficult one to perform, and does not in any way diminish the chance of recovery."

It may be safely predicted that, as the study of this department of surgery becomes more developed, it will be found that the same general principles will apply here as in the management of analogous injuries and diseases of the skull and its contents, modified, of course, by the differences in the anatomical conditions.

SURGERY OF THE THORAX.

Nothing specially worthy of remark has been developed in very recent years in this division of surgery.

SURGERY OF THE ABDOMEN.

So much is being done here, and so numerous and able are the publications and new devices offered for facilitating and improving the technique of the many operative procedures now practiced in this region of the body, that it is difficult for me to select the points most appropriate for consideration on this occasion.

What may be termed therapeutic laparotomy is one of the latest developments of abdominal surgery. At a recent congress of surgeons in Europe (JOURNAL OF THE AM. MED. ASS., *Dec.* 21, 1889, p. 899) the "surgical treatment of peritonitis was considered a modern triumph," and numerous important communications on the subject were presented. Mr. Lawson Tait uses the following language in a recent publication: "I have had more than one occasion to draw attention to the astonishing disappearance of tumors, often of large size, after a mere exploratory incision." .... "The cases in which I have seen tumors disappear in this way have mainly been cases of diseases of the liver, spleen, and head of the pancreas," and "at least one case of uterine myoma." .... "That a therapeutic change is effected in the peritoneum itself by the mere opening of the cavity is now universally recognized in the treatment of what we call tubercular peritonitis by abdominal section. I have now had a large experience on this point, and can say positively that we can cure permanently and speedily cases that have gone even as far as suppuration, by opening and cleansing. ... And in the nonpurulent cases I very often do no cleansing at all, but merely empty out the serum and put in a drainage pipe. Yet the great majority of these cases are cured by these simple means." He further states that "four times in my life I have opened the abdomen for the purpose of removing enlarged spleens, and in every one of the instances I have been deterred from proceeding with the operation by reason of the hopelessness of the outlook for the patient. Strange to say, in three of the four patients the tumor has disappeared, and they are now to my knowledge—or were, at least, quite a short time since—in perfect health; the fourth succumbed to the exploratory incision."

These are certainly remarkable statements, and would, notwithstanding the high authority from which they come, be received with a natural incredulity; but he is not alone. Bouilly reports six cases of puerperal peritonitis to the last French Congress of Surgeons, which were treated by incision, the hot water douche, and dressing with a large drainage tube and antiseptic material (*Archives de Tocologie*, No. 12, 1889), and other writers in various parts of the world are taking up the subject and report more or less favorably in regard to it. It will not be hazarding too much, then, to say that what may be designated as therapeutic laparotomy has come to stay, though perhaps with but a limited yet important field for its application, and that the rules and principles to guide us in its performance are being rapidly formulated.

Speaking of therapeutic laparotomy calls to my mind the fact that what may be with equal propriety designated as prophylactic laparotomy is in some quarters decidedly growing into favor as applied to certain cases of relapsing typhlitis and appendicitis. It is evident that year by year there is an increasing tendency in favor of removing the appendix vermiformis in those cases where repeated inflammations of this useless relict of a previous stage of human evolution threatens the life of the patient from perforation and consequent acute peritonitis, or from dangerous suppurative cellulitis. It is probable that the operation may have been, and may continue to be, performed unnecessarily, for we have all seen cases where the appendicitis has repeated itself at longer or shorter intervals, with full recovery and finally no recurrence for years, if at all. Then there are other cases characterized by graver symptoms, more frequent recurrence, and with localized tendencies of greater persistency. These latter are more likely to be followed by typhlitis, perityphlitis, or peritonitis of a very dangerous type, resulting from perforating ulceration. These more serious cases are the ones in which a prophylactic laparotomy for the removal of the appendix would seem most appropriate.

In the pathology of this trouble, we may notice a marked analogy to the relations recognized to obtain between the various degrees of salpingitis and pelvic peritonitis, and pelvic cellulitis. In each case there is a tube readily retaining noxious matters so hidden away from the general current, if I may so express myself, of the mucous surface to which it belongs, as to favor the retention of such matters. In each case such retention soon invites inflammatory action, which then tends either to the production of localized peritonitis with adhesions of surfaces, or neighboring cellulitis, or both peritonitis and cellulitis, producing a vast variety of results differing in importance in each case. Just as pelvic peritonitis, pelvic cellulitis, pelvic abscesses with all their possible complications, may have their origin in salpingitis—frequently gonorrheal in character—so does appendicitis produce typhlitis, perityphlitis—which is lumbar cellulitis—perforating stercal abscesses, cellulo-peritonitis or general peritonitis from perforation.

It would seem that the same general surgical principles should apply to both classes of cases, modified to suit the differences in anatomical relations. As the gynecologist should only remove the tubes when other means of relief prove unavailing, and the life or the usefulness of the woman demands it; so the operation of appendicectomy—if I may be permitted to suggest the word—should be reserved for the cases where frequent recurrence and increasing gravity threaten to end in the dangerous results of perforation or suppuration. Treves, in England, (*British Med. Jour.*, Nov. 9, 1889); and Senn, JOUR. AM. MED. ASS., Nov. 2, 1889), McBurney, (*New York Med. Jour.*, Dec. 21, 1889), and Weir, *Med. News*, March 1, 1890), in America, have contributed able papers on this interesting subject within the last year well worthy of the study of practitioners of medicine as well as of surgeons.

The principles involved in the resort to laparotomy for traumatism, as well as the rules for the technique of the various abdominal operations to repair injuries or remove obstructions, etc., are yearly becoming more definitely established; but this field is too extensive for me to enter, and too important to be cursorily considered. The comprehensive paper read before the Surgical Section last year by Prof. T. S. N. Morton, of Philadelphia, and the work published since by Prof. N. Senn, of Milwaukee, on "Intestinal Surgery," give a full study of the subject up to date, and should be read by all medical men who desire to be abreast of the times in regard to this important advance in modern surgery.

There are many other matters, gentlemen of the Association, to which I am tempted to allude, but time admonishes me that I must bring this Address to a conclusion ere your patience be entirely exhausted. All the subjects which have been brought to your attention have much in them of common interest to all branches of medicine. Indeed, in the vast range of our activities, it would be difficult to find any important question whose successful investigation is not of more or less service to each and every department or specialty of the profession. We are thus again reminded of the fact—alluded to in my introductory remarks—of the absolute unity of the medical profession, notwithstanding the number of special branches into which this working brotherhood is divided. Let our specialist never forget this fact, or he will soon wander out of allignment with scientific medicine; and let us all ever cherish this feeling of unity in diversity, remembering the great cause in which we fight, and that whatever advances be made in one part of the field must beneficially effect the whole line of battle. He who keeps ignorant as to how far all the divisions of the army have advanced, or what strongholds they occupy, will be soon irretrievably lost in the rear.

ADDRESS OF THE CHAIRMAN OF THE SECTION ON STATE MEDICINE.

Delivered at the Forty-first Annual Meeting of the American Medical Association, held at Nashville, Tenn., May, 1890.

successful cas- HAMILTON, M.D., LL.D.,
station, of osseous RAL OF THE MARINE-HOSPITAL SER-
trephining, comes from E UNITED STATES.

Med. Woch., No. 38) gratulate you, on this annual
septic precaution, thave met in a city famous for
few days old. He lubrity, its educational institu-
in order to observ s hospitality, its "Hermitage,"
was certain that t we are here in the home of that
bone plates, and ary science who so ably presided
ing in the skull rations of this Section last year,
planted bone plat ence among us to-day is at once
with the surro d a source of pleasure.[1]

Jour., Dec. 14, 18

In accordance with the time-honored custom it becomes the duty of the Chairman of this Section to give a short address, and I assure you that addressing so distinguished a body, largely composed as it is of medical gentlemen who make the business of public health their chief business in life, is a matter of no little anxiety.

First of all let me thank you for the honor conferred upon me by election to the Chairmanship of this Section; but I esteem it less a personal compliment than a recognition of the great medical service of which I happen to be, at the present time, the commanding officer; a service, I may say, whose members are, to a man, enthusiasts on the subject of public hygiene, and whose labors, I trust, will reflect credit upon their country and their chosen profession. Owing to the peculiar relations which the Marine-Hospital Bureau bears in relation to the public health in this country, it is perhaps fitting that I should refer somewhat to the operations of that Bureau during the past year, and briefly sketch what changes have taken place since our last meeting in Newport.

Largely through the favor and support of the American Medical Association, and especially of this Section, Congress has strengthened the hands of the Bureau by enactments which have come in what I may truly call its developmental stage, for in the very nature of things it is impossible that its development can ever be completed; for with equal pace with the general diffusion of knowledge and the advancement of sanitary science new problems arise for solution, and new factors of extension and for the prevention of disease are presented for consideration.

The work of the Marine-Hospital Bureau in public health matters during the year has been confined to increasing the facilities at the different quarantines for treatment of vessels, the publication of a weekly abstract of sanitary reports, with which most of you are familiar, and the increasing of the facilities for laboratory work. There are two laboratories now fitted up with ample appliances for bacteriological work. One of them is intended for a general hygienic laboratory, and is at present located in New York. It is greatly desired that this laboratory shall be removed, at no distant day, to the National Capital and placed in a suitable building, where its usefulness may be greatly increased and its work conducted under the more immediate supervision of the Bureau. The other laboratory has been established at the Key West Quarantine Station, on Tortugas Key. It is intended that the questions connected with the etiology of yellow fever shall be assigned to this laboratory, while the one at New York is for general hygienic work. Special investigations have been conducted at the New York laboratory on the hot air treatment for pulmonary phthisis, a detailed account of which was published in the

Abstract of Sanitary Reports for September 6, 1889; on various sources of infection in surgical wards; on specimens that have been referred to the laboratory from different stations, and the careful investigations of the cases of malarial and enteric fevers occurring at the Marine Hospital at New York, for the purpose of establishing the presence of plasmodium malaria in the blood, and of the bacillus of Eberth in the spleen or intestinal canal. In the latter investigation Dr. Kinyoun gives the following conclusions:

1. Malarial and enteric fevers are not antagonistic to each other.
2. A differential diagnosis between the two diseases is sometimes impossible.
3. There exists a mixed form of infection which can be diagnosed by means of bacteriological and microscopical examination.

An interesting observation as to the therapeutical effect of cobra poison is now going on at the laboratory. The origin of this investigation is as follows:

A little over a year ago Mr. Peroux, of Calcutta, wrote to the Bureau, stating that the natives in India were in the habit of treating cholera in its commencement with minute doses of a substance which proved to be cobra poison, and that the treatment had seemed to be pretty generally successful. This statement was made with a request that the Government would investigate the matter with a view of ascertaining the action of cobra poison on the cholera bacillus. After some difficulty and the lapse of some time a considerable quantity of the poison was procured and is now being examined. The experiments are not completed, but Dr. Kinyoun has informed me that the cobra poison, in a very minute quantity, is a germicide of extremely high power, and that it is fatal to the development of cholera germs. Control experiments are now going on, and he hopes to be able to make a complete report on this subject by the close of the present fiscal year.

THE INTER-STATE QUARANTINE ACT.

The President signed the Inter-State Quarantine law March 28, and with this law the general measures advocated for some time past are completed. The Act of April 29, 1878, inaugurated the system of reports from our consuls abroad, and prohibited the entry of infected ships. The Act of August 1, 1888, established United States quarantines wherever the sanitary defenses of our coast seemed incomplete, and the present law provides that when it shall appear to the satisfaction of the President that cholera, yellow fever, small-pox or plague exists in any State or Territory, and there is danger of the spread of any of those diseases to any other State or Territory, then regulations for the prevention of its extension shall be framed by the Supervising Surgeon-General. When these regulations are approved by the Secretary of the Treasury and the President, they are binding upon the general public, and specifically upon officers of the Government, common carriers' agents, officers and employés. A severe penalty is prescribed for violation of the regulations so framed. Another feature of this new law is the fact that violations of any of the general quarantine laws of the United States are made punishable offenses. It was a radical defect in the law of 1878 that no penalty was prescribed for the violation of its provisions, and in cases actually tried no fines could be imposed.

Taking the three acts as a whole, there is now authority for the exercise of governmental control whenever any extraordinary emergency shall require it; and for the performance of the ordinary quarantine service and the collection of sanitary information the Marine-Hospital Bureau is greatly strengthened by the new Act. The following is its text:

AN ACT TO PREVENT THE INTRODUCTION OF CONTAGIOUS DISEASES FROM ONE STATE TO ANOTHER, AND FOR THE PUNISHMENT OF CERTAIN OFFENSES.

Be it enacted by the Senate and House of Representatives of the United States of America, in Congress assembled, That whenever it shall be made to appear to the satisfaction of the President that cholera, yellow fever, small-pox or plague exists in any State or Territory, or in the District of Columbia, and that there is danger of the spread of such disease into other States, Territories, or the District of Columbia, he is hereby authorized to cause the Secretary of the Treasury to promulgate such rules and regulations as in his judgment may be necessary to prevent the spread of such disease from one State or Territory into another, or from any State or Territory into the District of Columbia, or from the District of Columbia into any State or Territory, and to employ such inspectors and other persons as may be necessary to execute such regulations to prevent the spread of such disease. The said rules and regulations shall be prepared by the Supervising Surgeon-General of the Marine-Hospital Service, under the direction of the Secretary of the Treasury. And any person who shall willfully violate any rule or regulation so made and promulgated shall be deemed guilty of a misdemeanor, and upon conviction shall be punished by a fine of not more than five hundred dollars, or imprisonment for not more than two years, or both, in the discretion of the court.

SEC. 2. That any officer, or person acting as an officer, or agent of the United States at any quarantine station, or other person employed to aid in preventing the spread of such disease, who shall willfully violate any of the quarantine laws of the United States, or any of the rules and regulations made and promulgated by the Secretary of the Treasury as provided for in section one of this act, or any lawful order of his superior officer or officers, shall be deemed guilty of a misdemeanor, and upon conviction shall be punished by a fine of not more than three hundred dollars, or imprisonment for not more than one year, or both, in the discretion of the court.

SEC. 3. That when any common carrier or officer, agent, or employé of any common carrier shall wilfully violate any of the quarantine laws of the United States, or the rules and regulations made and promulgated as provided for in section one of this Act, such common carrier, officer, agent or employé shall be deemed guilty of a misdemeanor, and shall, on conviction, be punished by a fine of not more than five hundred dollars, or imprisonment for not more than two years, or both, in the discretion of the court.

Approved March 28, 1890.

But one opportunity has been had, up to the present time, for carrying into effect the provisions of this Act. The State Board of Tennessee, having had it reported that an epidemic of small-pox was prevalent in an adjoining State, and that the measures for its control were not sufficiently strict, made application to the Bureau to cause such measure to be taken as would prevent its spread to their State, but investigation proved that the original reports were groundless; hence no action was taken.

The United States has now assumed the duty of inspecting the immigrants bound for our shores, a duty heretofore imposed on the State authorities, and it will be possible to have a much better sanitary surveillance over them than heretofore. This step constitutes, in my judgment, a distinct advance in the sanitary defenses of the country.

EPIDEMIOLOGY.

No serious epidemic of yellow fever, or cholera, or small-pox has occurred within the limits of the United States during the present fiscal year, although some isolated cases of yellow fever have appeared at Key West. At the latter place it appears beyond doubt, from recent investigations by Sanitary Inspector Posey, that, owing to the local conditions, the city of Key West is in danger of becoming a centre for the dissemination of yellow fever. This is all the more deplorable from the fact that it appears from his report that this arises from lack of the plainest observance of hygienic rules. The use of cess pools within the city limits, bad water supply, entire lack of drainage, general lack of municipal cleanliness, affording favorable conditions for the propagation of the hypothetical germ of yellow fever. It is believed, however, that as its condition is now well known not only in Florida, but throughout the United States, the local authorities will be stimulated up to the point of placing this city in a proper hygienic condition. No city in the Union is more favorably located by nature for a sanitarium than the city of Key West. The beautiful island is crowned by royal palms, bathed in sunshine, and fanned by the sea breezes and steady trade winds. In a region of perpetual summer, its atmosphere is always balmy. The island itself is a coral rock, on which but a small amount of alluvium is found, sufficiently high to insure good drainage. There is no reason why Key West should not be a terrestial paradise if the inhabitants so willed it and would only take the necessary steps to perfect its hygiene, raze its hovels and build better dwellings.

A detailed account of the sanitary condition of Key West will be found in the Abstract of Sanitary Reports for March 14, 1890.

INFLUENZA.

An epidemic most serious in its results, but, singularly enough, entirely free from the production of a panic, was the epidemic of influenza which swept over this country during the past fall and winter. Many persons acquainted with the history of previous epidemics of influenza were inclined to make light of it at first, and to predict the most trifling consequences; but it was found that the mortality from pneumonia, from phthisis, and from respiratory affections generally was very much increased, and it soon became known as more destructive than those diseases, apparently more dangerous on account of these collateral effects mentioned. To the epidemiologist the course of influenza, viewed in the light of modern bacteriology, seems one of the most wonderful phenomena of nature. That an epidemic having arisen in one of the most remote parts of the globe should suddenly, in a few weeks, extend itself over so vast a space, is surely worthy of the most attentive study. Through the State Department I hope, at no distant day, to be able to ascertain in what part of the world this influenza first made its appearance; but as yet it has not been traced beyond its original appearance in St. Petersburg, Russia, in November, 1889. A statement has appeared, however, from Danish sources, to the effect that the disease was in Iceland in May, 1889. This report, however, has not been confirmed. The legation at St. Petersburg has been written to obtain from Russian sources an account of the origin of this epidemic. So far as is known, no inhabited country has escaped an attack of the disease, and although originating in the North, yet the scorching sun of the tropics appeared to have no influence in arresting its progress. From the northern latitudes to the tropics, thence to the extreme south, westward to the Polynesian island and the Indian ocean, persons, and in some instances animals, have been affected by the disease. As might have been expected, it proved much milder in the tropics than in the higher altitudes, but its origin is as yet unknown, and although a particular bacillus has been assigned as the potential factor in its causation, it is as yet unaccepted.

LA NONA.

Another disease is reported in the public press to exist in Europe in circumscribed localities, under the name of "nona," and there is confirmation of it in medical journals, but none has been officially reported. It has been stated to be in this country, but the experience of the Bureau in the investigation of epidemics thus unofficially reported has been entirely negative. Many sensational reports are printed concerning alleged terrible epidemics, which on investigation turn out to be simple affections sufficiently well known and entirely without the province of local, State or National health officers. Dr. Broun, in the *Deutsche Medicinische Wochenschrift* of March 27, 1890, describes the disease, the principal symptom of which is prolonged sleep. Pneumonia and meningitis occur simultaneously. All the cases reported have been fatal, and it is regarded as a combination of pneumonia and cerebro-spinal meningitis, perhaps due to the causes of influenza.

LEPROSY.

The American Public Health Association, at its meeting last November, passed a resolution requesting that the National Government take some means to prevent the introduction of leprosy into the United States. It had been known for some time that leprosy was increasing perhaps throughout the world, and this view would seem to obtain from the recent reports concerning its great increase in New Caledonia and other parts of the world where lepers, owing to increased facilities of transportation, find their way, and it was believed that the leprous settlements in the United States owe their origin to direct importations. While there exists no power in the National Government to seize a leper and confine him, there is ample power to prevent his coming within the limits of the United States. Under the Act of April 29, 1878, and under the more recent Inter-State Commerce Act, it will be possible to restrict his transportation from one State to another, provided State Boards of Health shall desire to coöperate. Without their coöperation it would be impossible, without an expense entirely out of proportion to the public necessity. On two occasions, I have visited the leper hospital of San Lazaro, in Havana, and have become convinced that the true policy of the country should be the confinement of all lepers on a public reservation set apart for them. The Sisters in charge of the hospital of San Lazaro assured me that no instance of transmission of the disease had been known, but the great number of lepers running at large in the Island of Cuba shows that the disease is propagated in some manner, and when I discovered that in this hospital various articles of bric-a-brac, wearing apparel, and other things were manufactured for sale and distributed throughout the Island, the means of its transmission did not seem far to seek. Moreover, these lepers at San Lazaro are not strictly confined to the hospital, such as are able to travel being allowed to go out on permit from time to time, and the discipline did not seem to me at all rigorous. In fact, the incarceration of a leper in this magnificent hospital seemed to be a guarantee that he was for the rest of his life to be provided for in comparative luxury. In my opinion the confinement of the lepers on a public reservation large enough to give ample space for their segregation, the entire separation of the sexes, and to give them opportunity for outdoor agricultural pursuits, is the true solution of the problem of what we are to do with the lepers in this country.

Under present regulations, no leper will be permitted to land in any vessel coming into the United States. The Circular in which this regulation was formulated reads as follows:

CIRCULAR.

REGULATION TO PREVENT THE INTRODUCTION OF LEPROSY.

1889. Department No. 130.

TREASURY DEPARTMENT,
OFFICE SUPERVISING SURGEON-GENERAL MARINE-HOSPITAL SERVICE.
WASHINGTON, D. C., DECEMBER 23, 1889.

To Medical Officers of the Marine-Hospital Service, Collectors of Customs, and others Concerned:

The National Quarantine Act, approved April 29, 1878, entitled "An Act to prevent the introduction of contagious or infectious diseases," provides that no vessel or vehicle coming from any foreign port or country where any contagious or infectious disease exists, or any vessel or vehicle conveying persons or animals affected with any contagious disease, shall enter any port of the United States, or cross the boundary line between the United States and any foreign country, except in such manner as may be prescribed.

Attention is now directed to the increased prevalence of the contagious disease known as leprosy in several foreign countries, and the danger of its increase in the United States through the immigration of persons affected with leprosy, and by direction of the Secretary of the Treasury the following regulation is framed under authority of the foregoing Act, subject to the approval of the President, to protect the people of the United States from the introduction of leprosy:

1. Until further orders, no vessel shall be admitted to entry by any officer of the customs until the master, owner, or authorized agent of the vessel shall produce a certificate from the health officer or quarantine officer at the port of entry, or nearest United States quarantine officer, that no person affected with leprosy was on board the said vessel when admitted to free pratique, or in case a leper was found on board such vessel, that he or she with his baggage has been removed from the vessel and detained at the quarantine station.

2. Medical officers in command of United States quarantines are hereby instructed to detain any person affected with leprosy found on board any vessel, but such officer will permit the departure on outgoing vessels of persons detained at quarantine in pursuance of this regulation, provided such vessel shall be bound to the foreign country from which the said leper shall have last sailed.

JOHN B. HAMILTON,
Supervising Surgeon-General Marine-Hospital Service.

Approved:
WILLIAM WINDOM, *Secretary.*

Approved:
BENJ. HARRISON.

Although perhaps only lightly contagious, it is clear to my mind that leprosy is inoculable, and for that reason, dangerous. At any rate, it is evident the country will not suffer if leprous immigrants are denied admission. Since the issuance of the Circular, one leper has been stopped by the Boston quarantine authorities. While this address was being written a report of a leper at Evansville, Ind., was received. The origin of this case has not yet been determined. The patient is a steamboatman, a native of the United States.

At the last meeting of this Section, the writer introduced a resolution which had previously been formulated at the Montgomery Quarantine Conference of 1889, in regard to international responsibility. This resolution, it will be remembered, was unanimously adopted by the Section, referred to the Association, and by the Association adopted. It for the first time distinctly announced the doctrine that a nation was responsible to other nations for maintaining a plague centre in its own territory. The paper which I read in support of the resolution, in this Section, has been reproduced in France, and read with approval to the Société Française d'Hygiene of Paris, by the distinguished Secretary-General, Dr. De Pietra-Santa. I subsequently had the opportunity of further elaborating this as a principle of international law, and presenting it to the Honorable the Secretary of State for transmission to the Committee on Quarantine of the International American Conference. It does not appear, however, to have borne fruit in that body, for the Committee on Sanitary Regulations reported to the Congress the following recommendations, which it will be seen have no reference to this proposition:

> The International American Conference, considering:
>
> That taking the existing state of the relations between the nations of America, it is practicable as it is advisable for the promotion of these relations, to establish perfect accord with respect to sanitary regulations;
>
> That the greater part of the ports of South America on the Atlantic are guided and governed by the decisions of the International Sanitary Convention of Rio Janeiro, of 1887;
>
> That although it does not appear that the plans of the Sanitary Congress of Lima, of 1889, have passed into the category of international compacts, it is to be hoped that they will be accepted by the Governments that participated in the said Congress, because those plans were discussed and approved by medical men of acknowledged ability;
>
> That the Sanitary Convention of Rio Janeiro, of 1887, and the draft of the Congress of Lima, of 1889, agree in their essential provisions to such an extent that it may be said they constitute one set of rules and regulations;
>
> That if these were duly observed in all America, they would prevent, under any circumstances, the conflict which usually arises between the obligation to care for the public health, and the principle of freedom of communication between countries;
>
> That the nations of Central and North America were not represented either in the Sanitary Convention of Rio Janeiro or the Congress of Lima; but that they might easily accept and apply to their respective ports on both oceans the sanitary regulations before cited;
>
> Recommends to the nations represented in this Conference the adoption of the provisions of the International Sanitary Convention of Rio Janeiro, 1887, or the draft of the Sanitary Convention of the Congress of Lima, of 1889.

It appears on careful examination that the plan of an International Sanitary Convention which was formulated by the American Sanitary Congress of Lima, in 1888, followed very closely the articles laid down in the International Sanitary Conference of Rome, in 1885. It, however, laid down a more detailed plan of quarantine, and it must be admitted that the plan of quarantine there named is admirable in many respects. It does not differ from the plans of quarantine at present adopted. It obliges each country to establish a maritime sanitary service, and provides for international recognition of their certificate. This is an undoubted advance on the existing state of affairs, and confidence in the certificates of unknown sanitary authorities is a plant of slow growth, yet it is believed that some international confidence will in time be established. Certainly the policy of non-intercourse between countries desiring to trade with one another is a relic of mediaeval barbarism. Sanitary science has nowhere made greater advances than in its appliances for complete and safe disinfection.

INOCULATION AS A PREVENTION OF YELLOW FEVER.

The exhaustive researches of Surgeon Sternberg, of the Army, into the question of the etiology of yellow fever, and especially upon the prevention of yellow fever by inoculation, have been published in the last Report of the Marine-Hospital Service, and are sufficiently detailed to enable any one to draw their own conclusion as to the value of the inoculation. For myself, I may say that, notwithstanding all that has been said in favor of the methods of inoculation as a preventive of yellow fever, we must admit that since the time of the alleged discovery of Freire, Rio de Janeiro has been visited by a most disastrous epidemic of yellow fever, the mortality of which was fully as severe as that of previous epidemics; in fact, to-day, the only country from which the United States is seriously threatened by the sending out of yellow fever fomites is Brazil, and the place, the city of Rio de Janeiro.

I suggest that this Section take the papers of Sternberg and the more recent statistics of Freire, both of which I take pleasure in laying before you, and examine carefully those statistics, for the purpose of ascertaining whether they are, or not, such as carry weight to the mind of an unprejudiced person. I am the more ready to do this because of the claim made by a very distinguished gentleman, a member of the American Medical Association, one for whom I entertain the highest respect, that notwithstanding the researches of Dr. Sternberg, the statistics of Freire, as now published, have refuted every opinion adverse to his method. I submit, then, in view of this discrepancy, whether this Section does not owe it to itself, and to the Association, to appoint a Committee of Investigation of the papers as presented, with a view of presenting an opinion that may settle this controversy, so far as the opinion of the Association is concerned.

THE WORK OF THE SECTION.

I now present to you the Programme of the daily work of the Section, so far as completed, and trust that it may be adhered to so far as possible, with a view to economy of time, and in accordance with the custom of the Association, which directs that such improvements in Section work shall be suggested, from time to time, by the Chairmen, as may occur to them. I have to say that the Secretary has prepared a register of the names of those in attendance, and a record book wherein to transcribe the minutes of the Section. It has been found impracticable to keep in memory alone a record of the proceedings of former meetings, reports of committees and various standing committees that are appointed from time to time. I have therefore thought that a record book, which can be transmitted from Secretary to Secretary at each annual meeting, will be not only a business way of conducting the affairs of the Section, but in itself, in the lapse of time, will constitute a valuable history of its meetings. I take pleasure in presenting to the Section its first record book, which I have entitled Volume I.

Trusting that the meeting may be as harmonious as it now promises, that it may be profitable to all of us, and asking your indulgence in advance for the short-comings of your presiding officer, I thank you for your attention to this somewhat desultory address.

ADDRESS OF THE CHAIRMAN OF THE SECTION OF OBSTETRICS AND DISEASES OF WOMEN.

Delivered at the Forty-first Annual Meeting of the American Medical Association, held in Nashville, Tenn., May, 1890.

BY WILLIAM WARREN POTTER, M.D.,
OF BUFFALO, N. Y.

Gentlemen:—It is a just ground for hearty congratulation that your lot has been cast in such a pleasant place, in which to hold your deliberations during this forty-first annual session of our noble Association, as is this beautiful city of Nashville—the Athens of the South, as it has been not inappropriately named—and I consider it a piece of rare good fortune that has fallen to me personally to have been chosen to preside over this body of scientific workers on this occasion. It would be a discourtesy not to express my appreciation of the honor you have done me, and a dereliction of duty not to thank you with warm words for so distinguished a mark of your favor. I crave your indulgence toward my shortcomings—no doubt they will be many—and appeal to you for support in the discharge of my duties now about to begin.

The letter of the By-laws of the Association requires that "the chairman of each Section shall prepare an address on the recent advancements in the branches belonging to his Section, including suggestions in regard to improvements in methods of work, and present the same to the Section over which he presides on the first day of the annual meeting." It will be my aim to comply with the spirit as well of this mandate; and, reversing the order named in the By-laws, let me first and briefly make those

SUGGESTIONS IN REGARD TO IMPROVEMENTS IN METHODS OF WORK

that have occurred to me as requisite, during an experience of a year's observation of the affairs of the Section.

One of the unprotected points in our organization is the failure of provision for the death or disability of the chairman—contingencies as likely to happen here as elsewhere—and in either case it seems to me the Section might suffer sadly for the want of a presiding officer. In such an event no doubt an acting chairman could be appointed by the President, but it might impair the usefulness of the Section for a year; and who can recall a year lost or wasted? The remedy against such misfortune, a simple one, lies in the election of a vice-chairman at the same time the other officers are chosen. This may, and no doubt will, require an amendment to the By-laws; but such action is easily obtained, for I have no doubt the reasonable nature of such a request would be recognized by the Association. Meanwhile, a vice-chairman can be elected at this meeting, subject to the passage of the proposed amendment.

Let me next call attention to the necessity of a register of the members of the Section, to include the names and addresses of those who manifest an interest in its meetings by regular attendance thereupon. Such a record is an almost indispensable necessity for the officers in conducting their correspondence in preparing for each annual meeting. It may become a convenience, also, in case a roll-call shall be ordered for any purpose, or should the ayes and nays be demanded on any question. Acting upon this hint I have provided such a book, in which a few names are entered as a beginning. The members in attendance at this meeting are requested to add theirs to the list, which is alphabetically arranged for convenience.

It would appear to me a very excellent plan to secure the services of the Secretary for a longer period than one year. This term barely affords opportunity to become acquainted with the duties of the office and with the members of the Section. His usefulness would be greatly enhanced by continuing him in service for several terms.

Finally, and as a matter of supreme importance, the question of reporting the proceedings in full and publishing them promptly after the adjournment of the meeting, is indissolubly connected with the prosperity of the Section. In these days of rapid transit and quick intercourse between even remote parts of our country, time saving methods become a necessity, and time economics a study. They are as important to professional men as to anybody, and to none more than to the physician.

The brilliant thoughts that scintillate from the brain molecules during society debates, finding expression often in choice and vigorous English, are lost to literature unless caught up at once by the stenographer's art and preserved by the printer's skill. It cannot be expected that a speaker will be willing to retire from an interesting discussion to write out his own remarks, even to gratify that most amiable of men, the editor of a medical journal; he will not often do it even to ensure a correct report in a Transactions' volume bound in Russia and gotten up in the most attractive style of the printer's art. Moreover, in an Association like this, where there are many Sections and members naturally desire to attend the debates in several on the same afternoon, it would be a source of great satisfaction to have the printed proceedings to read carefully at home, amid the quiet surroundings of the silent hour, provided they could be furnished verbatim and with reasonable promptitude.

To the scientific worker, one of the great attractions of the special societies is the fact that he knows he will get the fruits of his labor preserved for reference and study in conjunction with those of his fellows, where he can carefully and critically review them to his own pleasure and profit. These special societies have on this account, *inter alia*, thriven even at the expense of interest in the American Medical Association. Many of our best men have said they would not come here and engage in hard and earnest work, if it is permitted to be lost to the medical world through indifference, apathy, or neglect of a carefully prepared report of the proceedings. I have felt constrained to allude to this subject because of its great importance to the Association. This is, so to speak, the period of the renaissance of the American Medical Association. The profession of the United States enjoy its meetings and will attend them, notwithstanding the strong ties of the special societies, provided the discussions are preserved with due regard to completeness.

The plan I suggest is, for this Section to employ a competent stenographer to report the discussions with perfect exactitude, and to publish its proceedings in pamphlet form as promptly as possible after adjournment. This pamphlet should contain abstracts of all papers read in the Section, made by the authors themselves, together with a full report of the discussions thereon. The expense of this must of course be borne by the Section, and an annual voluntary subscription of five dollars from each will be necessary to meet it. An editor should be appointed to supervise the publication of the proceedings.

This plan will in no wise conflict with the interests of THE JOURNAL. The complete papers will be published in it, together with such longhand abstracts as may be prepared under the directions of THE JOURNAL editor. An opinion has obtained among the editors of journals that a longhand abstract of a discussion is better for their use than a stenographer's report. This may be true; no doubt it is; but it does not answer the requirements of the members of a Section like this, who have no time to write out their discussions after they have been delivered, while at the same time they demand that the full proceedings shall appear in print.

These, then, are the suggestions of improvements in methods of Section work that it seems pertinent to offer at this time:

1. That the Section shall elect annually a vice-chairman, whose duties shall be to preside in the absence of the chairman, and to render such other assistance in the conduct of the Section work as may be properly imposed upon him.
2. That a register of the members of the Section shall be kept at each meeting by the officers, to be transferred to their successors at its close.
3. That the Secretary shall be chosen with a due regard to reasonable permanency.
4. That the proceedings of the Section shall be published in pamphlet form each year, the discussions to be reported by a stenographer. To meet this expense an annual subscription is solicited.

RECENT ADVANCEMENTS IN OBSTETRICS AND GYNECOLOGY.

It has not been difficult to comply with the requirements of the By-laws thus far; but now a more trying task confronts me. To report upon the recent advancements in the branches treated of in this Section has, of late years, been deemed a somewhat superfluous labor, in view of the easy interchange of knowledge through the enormous book and journal literature that is put forth annually. A more brilliant field would seem to offer in discoursing upon some special theme in one or the other of its subdivisions. Nevertheless, so long as the law is in full force, it cannot be evaded without doing violence to a principle that underlies all organizations of this kind. Bear with me, then, while I briefly mention two or three points of special interest in both obstetrics and gynecology, that have a practical bearing on methods of practice.

ASEPTIC MIDWIFERY.

The practice of surgery was not more completely revolutionized by the teachings of Lister, than was that of obstetrics through the application of similar principles to the conduct of labor and the care of the puerperal woman. Great as has been the gain in the saving of human life through aseptic surgery, the credit side of the balance-sheet of aseptic midwifery, which cannot be expressed in mere figures, is of infinitely greater importance in the life-saving problems that preventive medicine, in a self-imposed task, has sought to solve.

The doctrine of modern antisepsis as employed in obstetrics has a three-fold application: first, in relation to the conduct of labor; second, as affecting the child; and third, in the post-partum care of the puerperal woman.

The first lesson that aseptic midwifery teaches is that the parturient woman, whether of high or low degree, must be made absolutely clean in her person and surroundings. Her room must be clean, her bed must be clean, and everything used in the confinement room must be free from taint or odor. She may not be conditioned to have luxuries, perhaps hardly the necessities of the lying-in chamber, but she can and must have cleanliness.

Before the confinement—even immediately before—the woman should have an immersion bath when practicable; if not, then a thorough washing with soap and water. The abdomen, external genitals, nates, hips, and thighs must receive special attention in this cleansing process, and these parts must, at the finish, be thoroughly rubbed off with a weak sublimate solution. Just as the labor begins the vagina should receive a copious lavement of warm water, to terminate in a douche of at least a quart of sublimate water, 1 to 5,000.

If the law of aseptic midwifery is imperative in enforcing cleanliness for the woman, it is even inexorable in its mandates as regards the accoucheur. He must be as clean as soap and water can make him, supplemented with nail-brush and sublimate solution for his finger-nails, hands and arms. He must repeat the brushing of his fingers with the sublimate water before each examination, and the vagina must be invaded as infrequently as may be. The obstetric vicinage must, after delivery, be washed in warm sublimate water, and an antiseptic napkin applied to the vulva.

The child should receive immediate attention after its birth, particularly in the bathing of its face and eyes, a soft cloth dipped in weak sublimate water to complete the toilette of the eyes. Ophthalmia neonatorum, benign or specific, has become unknown where this plan has been strictly and neatly carried out.

During the puerperium following normal labor the propriety of washing out the vagina daily has been questioned by some obstetricians, and I will not presume to pass upon this point dogmatically; but, for myself, I may be permitted to say that if, at the end of forty-eight hours, the lochia is malodorous, it is safe practice to permit the vagina to be gently and thoroughly washed out with warm, weakly carbolated water, many or few times daily, according to necessity.

If, however, the labor has been instrumental, or if the hand has invaded the uterus for any cause, then the uterine cavity should certainly be cleansed with hot water, which may also be weakly carbolated or otherwise disinfected at the end of the lavement. Moreover, the vagina should subsequently be frequently washed out in an appropriate manner, for a number of days. While the abdominal surgeon has little if any use for chemical solutions, the obstetrician cannot dispense with them at present.

These are a few simple rules pertaining to the subject of aseptic midwifery, and they must be scrupulously and delicately adhered to by every physician who practices the obstetric art. Failing to do this is to shoulder an awful responsibility, and the consequences of such neglect would be indefensible either in a court of morals or law.

One of the largest Maternities of the land presents a record of nearly 600 deliveries without a death, and it is safe to say that such a splendid showing would be impossible, except for the rigid discipline that is there enforced by a master who knows no law not based upon that simple and divine word—cleanliness, and in whose wards dirt and noisome stenches are ever and forever strangers.

This theme would permit of much elaboration were the time and occasion propitious, but enough has been said to accomplish the purpose in view, viz.: to call attention to a well-known though oft neglected subject, whose principles are not, I fear me, as rigidly carried out in private practice as they should be.

THE TRACTION FORCEPS.

A few years ago, when Professor Tarnier first introduced the forceps that bears his name to the medical world, the impression conveyed to the majority of obstetricians was not a favorable one. It is true that here and there among men of acknowledged skill the instrument was recognized as one of merit, and it was by a few such put into practical use; but the more general verdict was one of disapproval. The argument was that the instrument was cumbrous if not clumsy; that it could be skilfully applied and made to do efficient work only by an expert who had been specially trained in its complicated technique; and, finally, that it was more than all a dangerous instrument, not needed to facilitate delivery—an altogether superfluous addition to an already overstocked armamentarium. Now, after a decade has passed and the instrument has undergone some modification, though still retaining its essential principles, this verdict is about to be, or I might say has been, reversed in all its counts and specifications.

Obstetricians of the most extended experience, notably teachers and those having service in large Maternities, are almost unanimous in their praises of the instrument, especially for the high forceps operation. It enables the operator to seize the head when high up and only partially engaged at the brim, or in contracted pelves, and to accomplish delivery through traction made in the direction of the axis of the brim, where this were impossible with the classic forceps. The duration of labor is thus materially shortened, with a resultant great saving of both mothers and children. But there is another class of cases in which this instrument is made serviceable, though where it is less frequently employed. I refer to cases of impaction of the head in the pelvic basin with uterine inertia as a concomitant. Here its good offices are made apparent in a minimum expenditure of applied force, and a corresponding economic conserving of strength to both mother and operator.

But all this will be more adequately set forth in a paper by my associate in the administration of the affairs of the Section, whose nimbler wit and greater erudition will, I am sure, entertain and instruct you far beyond my feeble capacity in either direction. I therefore forego further remarks upon this ingenious and useful instrument and its special field of application.

ADVANCEMENTS IN GYNECOLOGY.

It would be interesting to treat upon the rise and fall of craniotomy, the advance of the Cæsarean section, the amputation of the pregnant womb, and many other important questions that are among recent modifications of the practice of operative obstetrics, but the flight of time warns me that I must hasten on to the consideration of a few points in the second department of our Section.

The recent advancements in the gynecological field have been many and substantial. This is true whether in new methods adopted that give promise of great gain, or of former procedures overthrown that have not stood the test of experience.

The cancerous uterus, that has been for so long a period considered the *bête noir* of surgical art, seems about to be reclaimed to the realm of curability through a legitimate surgical procedure. In vaginal hysterectomy there appears to be an avenue of relief from the ravages of this hitherto hopeless disease, provided, of course, the operation is made in suitable cases—those in which the uterine organ only is involved; for it is acknowledged to be hopeless to proceed if there is circumjacent infiltration. The published reports are such as to carry the conviction that this operation has become established on a basis of legitimacy, for it has been able to show results that no other method can thus far claim. It may not yet be all that is desired, but with the improved technique and the multiplied experience of operators in almost every city in the land, there is promise of enough annual cures to win a constantly increasing favor for the method, and to neutralize if not silence adverse criticism.

Without wishing to anticipate the opinions that will be advanced in the papers to be read here to-day on the subject, it will, nevertheless, appear not improper to say that the sum of the whole case viewed from its various standpoints may be fairly stated thus: that whatever the future may bring forth, the operation of the present for cancer of the uterus, whether it be carcinoma of the body or neck, or epithelioma of the cervix, is vaginal total extirpation of the organ.

ELECTRICITY IN THE DISEASES OF WOMEN.

The treatment of the diseases of women by electricity has attracted considerable attention of late, and is manifestly a subject that would appear *to justify remark at this time.* Georges Apostoli, of Paris, has probably done more than any other man to popularize the agent in this particular field, and it is not uncommon to hear of pilgrimages to his clinic for the purpose of observing his methods, if not for a study of his art. Apostoli's published results are such as to challenge a careful analysis of his cases and a thorough investigation of his methods; but this is neither the time nor place for such extended comment as these would involve.

Paraphrasing a Grant Allenism, it may be asserted that electricity, like evolution, "is now in the air." Everybody talks about it, believes he knows all about it, and discusses it as glibly in his everyday conversation as he discusses the points of race-horses he has never seen, or the superiority of his favorite baseball club, whose members he does not know and whose skill he has never witnessed.

A number of prominent names in Europe and America are constantly quoted by enthusiasts as followers or supporters of Apostoli and his electro-therapeutics, or as authority for the application of electricity to almost every disease that may invade the sexual tract of woman. On the other hand, a large number of equally prominent names may be cited of those who have tried electricity in various forms and under multifarious conditions for like diseases, and as having either abandoned the remedy as worthless or limited its use from disappointment in its results. If judged by this standard one would say with much reason, that the weight of reliable opinion was against such wholesale and indiscriminate use of this agent in this field as its enthusiasts would demand for it.

Laying aside the many minor uses of electricity advocated in society papers, and by magazine writers who in numerous instances have apparently boldly hastened to make known through the medium of the medical press their wonderful *feats with an agent* they could neither define nor describe, let us examine for a moment its status in the two particular diseases in which its greatest triumphs are claimed. I refer, of course, to uterine myomata and ectopic pregnancy.

In the treatment of fibroids it is alleged that under a current varying from 15 to 280 milliampères the growth is arrested, the hæmorrhage stopped, the pain abated, and the tumor finally made to disappear by absorption. Certainly nothing can be more satisfactory than such results, no matter by what method of treatment obtained. But when we hear of a patient so cured (?) falling into the hands of another practitioner who finds the tumor still menacing her health and comfort, not to say life, and that he cures his patient by hysterectomy, it makes us pause; and a skepticism necessarily arises as to the value of the agent, or the correctness of the observations of the electrotherapeutist.

In extra-uterine pregnancy electricity has been employed to destroy the life of the embryo, in the expectation that it would mummify and remain henceforth harmless to the woman. The difficulties that lie in the path of acceptance of this practice are so many to the practical surgeon, it is not strange that we should often find him in opposition to its employment. In the reported successful cases has the diagnosis been clear? Is it true that the fœtal remains will not prove a constant menace to the life of the woman? Is there entire freedom from danger in the employment of the current itself? Does not abdominal section with its present improved technique, afford the surest chance of cure, with the minimum of risk? These are some of the questions the well-trained surgical mind would evolve when asked to abandon a logical principle based on the traditions of artistic skill and clinical experience, for one unstable in application, doubtful in action, uncertain in results, and temporary in relief.

While it is probable that electricity will ultimately be adjudged of some usefulness in gynecological practice, its real place is as yet undetermined, and its true value cannot, therefore, be properly estimated at present. Meanwhile, let us watch carefully, wait patiently, test cautiously, speak gently, and above all adhere tenaciously to the mandate of the Apostle: "Prove all things; hold fast that which is good."

ADDRESS OF THE CHAIRMAN OF THE SECTION OF OPHTHALMOLOGY.

Delivered at the Forty-first Annual Meeting of the American Medical Association, held at Nashville, Tenn., May, 1890.

BY S. C. AYRES, M.D.,
OF CINCINNATI, O.

The Section of Ophthalmology, through its Chairman, welcomes most cordially each and every one of you to-day. Although this is only its second year of independent existence, it does not feel like a child of tender years, but rather like a man of vigor and strength. It points with pride to the programme of last year, and this as substantial evidence of its ability to hold its own with the other and older Sections. The contributions of last year were excellent and of a high order, and your Chairman can emphasize the same in relation to the programme which he has to offer.

There is no question but that there is material enough among those who devote themselves to our specialty to sustain the Section of Ophthalmology with honor and credit. It needs only the coöperation of those interested to make it so attractive that it will yearly call forth the personal observations of its members in a manner that will make its meetings highly interesting and mutually beneficial.

We have met to interchange views on topics of mutual interest, to profit by each other's experience and observations, to enjoy that social intercourse which fosters personal friendship among professional men, and to accept the generous hospitality of our Southern confrères in this the beautiful capital of their State.

It has been charged that the life of a specialist makes him somewhat narrow-minded, as his work in a measure excludes the consideration of other branches. I question the truth of this. It certainly does not prevent him from taking an interest in and enjoying a retrospect of the progress which has been made in the vast field of work now occupied by medicine, surgery and the allied branches. The time was when a physician was expected to know a good deal about everything—in fact he was even expected to know everything; but that day is past.

Owing to new and advanced methods of teaching, our conception of the study of medicine is wholly different now from what it was twenty years ago. The horizon of our knowledge has so widened that we are not content to assume that we can comprehend it all. There is a limit to our ability to study, for time and physical endurance are limited, and we must content ourselves with studying well our own part and comprehending as much as possible of other allied branches. As we look out on a landscape we see clearly and distinctly what is near, but less distinctly what is in the distance. So with our specialty; it is close to our eyes and our heart and we take it all in, but we can still enjoy what surrounds us, although at a greater distance.

We know how much work it takes to keep ourselves up with the advances of the day, and we know full well that other branches are as broad, and as long, and as deep as our own, and we can appreciate the work which our colleagues have to do. From this standpoint—and I hold it is a true one—a specialist should not be narrow-minded; his own work should broaden his views of the fields of work his colleagues are engaged in. The allied branches have made wonderful progress in the past few years, and we can certainly look at their work with pride and admiration.

We look with wonder on men who now with such confidence open the abdominal cavity and perform operations which not many years ago would have been deemed not only foolhardy, but unjustifiable. In preantiseptic days such operations would have been followed by the most disastrous results; but now—how changed! Statistics prove that these operations are not only justifiable, but positively demanded as diagnostic measures.

We learn of an eminent writer in the East something of the progress of surgery which is simply astounding. In compound fractions of all grades the mortality is only one-half of one per cent., instead of from 25 per cent. to 68 per cent., as it was in years gone by. In ovariotomy Mr. Tait's percentage of loss in his second series of 1,000 cases was only 3.3 per cent., when a loss of 50 per cent. was common twenty-five years ago.

Surgeons now remove a portion of the stomach in case of cancer of that organ; sections of the intestines are also removed successfully; kidneys are cut down, calculi removed, and the gland preserved to perform its function; if it cannot do so, it is removed entire; and so with the gall bladder—it is opened, calculi removed, and in case this cannot be done successfully the gall bladder itself is sacrificed. Even the citadel of the mind itself—the brain—is opened and tumors successfully removed, which had been located by long and patient study of its functions. This chapter of progress is so startling that we stand in awe and admiration, and wonder what will next be done.

Are we holding up our end of the line in this march of progress? How can each one add something to advance the good of the whole? Cases of interest fall to the lot of each and every one. Interesting and valuable observations are being made, but do we give our associates the benefit of them? How can we best do it? My answer is, by giving to the journals a prompt report of such cases. It is not necessary that an elaborate paper should be written, nor that the whole literature of the subject should be analyzed; leave that for some one else who has more time than you. With the systematic reports of the progress of ophthalmology which are given at intervals in this country and Europe, and particularly in Nagel's Jahresbericht, your grain of seed will not be lost, but will be preserved in a permanent form and utilized for the best purposes of the profession.

Take the Transactions of the American Ophthalmological Society as the representative body in this country and see how many short papers there are, and how few long ones. A single case is frequently presented, but it is the nucleus of a discussion which brings out the various opinions of those present. Let us, then, bear this in mind and give the profession the benefit of our observations.

To aid us in this, a systematic arrangement of our cases as they come on, with free notes of the various phases through which they pass will assist us immensely.

Dr. James Anderson, in a very interesting and valuable article published in the *Ophthalmic Review* on "Some Ocular and Nervous Affections in Diabetes and Allied Conditions," says: "I think it the best and most hopeful feature in ophthalmology that it has relations, closer and more remote, with every branch of surgery and medicine."

The intimate relationship between ophthalmology and general medicine and neurology is recognized by all. The more cerebral and spinal diseases are studied, the more is this appreciated. At the present time every neurologist must be familiar with the alterations in the optic nerve, the influence of the paresis or paralysis of the ocular muscles, and the influences of errors of refraction on headaches and various subjective symptoms which are erroneously attributed to other organs.

Dr. J. Hughlings Jackson was last year elected President of the Ophthalmological Society of the United Kingdom. In his introductory address he says that he began his career in an ophthalmic hospital, and he thinks it the luckiest thing in his medical life. He there obtained lessons on exact observation which he could not have obtained in any other branch. He says that twenty-three years ago he wrote as follows: "Until physicians work at the muscular disorders of various convulsive seizures as carefully as ophthalmic surgeons do at paralysis of the ocular muscles, our knowledge of convulsions will not advance in an orderly way." This seems almost prophetic. He has done much to clear up many obscure points in diagnosis of the pathology of cerebral and spinal diseases.

Look at the manner in which convulsive seizures of a muscle or a set of muscles on a limb or of the entire body have been studied. These phenomena have been investigated with reference to the special portion of the brain which was involved, and how grand has been the outcome. Portions of the brain presiding over certain functions are now quite clearly mapped out, and still the work goes on.

Last year we had excellent suggestions on the discussion of ophthalmic subjects, and valuable hints were given. To carry out this most desirable work, how great an aid would a classified register be, where our cases were so arranged that we could at once refer to any particular subject.

When we wish to investigate a point we naturally turn to the statistics which have been published. What a satisfaction it is to find clear and convincing light thrown on a point which was in dispute. We feel thankful toward those who have been so painstaking as to collate their cases and the results, and so tabulate them that we can make use of them. To whom are we indebted for these statistics? Public institutions, hospitals, infirmaries, etc., are expected to publish these cases; but do physicians, surgeons, oculists, etc., collect their cases and so tabulate them that they could refer to them at any time? I fancy not. Last year at Newport we had a book for the registration of cases presented to us as a sample book of its kind, and it presented many excellent points. It was shown how easily one could refer to any class of diseases and at once record the number treated, results, complications, etc. How many oculists keep such a record, or have kept one for years past?

I think that if cases were classified as they come along one would derive much more pleasure in looking over his case book at the end of the year. He would also be better able to draw conclusions from his experience.

Many interesting cases fade from our memory as new ones crowd on with fresh points of interest. We have indistinct recollections of them, but cannot recall the name, nor the exact date; and so we move on, leaving much behind us that we ought to have preserved in a shape that we could refer to it at any time. A classified register would enable us to refer to our cases at a glance and collate and utilize them. We would in this way preserve the valuable ones and be able to sift the ordinary and uninteresting ones from those we wished to preserve.

A review of the progress of ophthalmology will compare favorably with that of any other branch of medicine. The new, or rather old, operation of simple extraction is gaining in favor. Statistics are not yet extensive enough to prove its true value, but it seems to me that it is bound to supersede the modified linear extraction of Graefe, and show much superior results. Men educated in the Graefe school are loath to give up a favorite procedure, but such statistics as Knapp has furnished will prove an unanswerable argument to any objections.

The eye as associated with, or involving renal, cerebral, and spinal diseases, and all reflex symptoms of internal organs, has been studied with renewed care. The intimate relationship between these diseases and the eye, is so generally acknowledged that this point no longer needs an argument. We are fortunately able to act as guides to show our confrères through places which otherwise would be dark without the aid of the skilled ophthalmologist.

The study of the errors of refraction is receiving, I may say, universal attention. Its importance grows as it is better appreciated by the profession as well as by parents and teachers. The relief afforded by the careful and accurate adjustment of lenses is incalculable, and as accurate methods are adopted, the results of refraction work are bound to be more and more satisfactory.

This is becoming the most important as well as the most interesting branch of our specialty. In connection with this the question of strabismus comes up, and it is, indeed, most satisfactory to know that it is now receiving intelligent and rational treatment. The results of correcting the underlying error of refraction are most satisfactory, and the necessity for making advancement operations to correct divergence after tenotomy of the internus will seldom ever occur.

Antiseptic precautions, before and after operations on the eye, are now universally adopted, and the results are very gratifying. They will grow in importance as ophthalmic surgery advances. The ophthalmic journals, foreign and domestic, and the proceedings of the ophthalmological societies abound in rich results of the researches and experience of the most eminent men in our specialty. The pens of such men abroad as Alfred Graefe, Hugo Magnus, Van Hippel, Deutschman, Landolt, DeWecker, Leber, Schweiger, Hirschberg, Hutchinson, Nettleship, and a host of others abroad, as well as Knapp, Gruening, Noyes, Kipp, Williams, Bull, Wadsworth, Theobald, Stevens, Roosa, Risley, Harlan, Alt, Chisolm, and many others in our own country, are active in giving to the profession the results of their labors. We have thus each year a mass of rich experience presented which is of inestimable value.

Death has claimed two eminent men during the past year, Jacobson, and Donders. The latter by his genius and profound study worked up the subject of errors of refraction from a theoretical and mathematical standpoint to a practical standpoint, and has left a monument to his name which will be more enduring than a shaft of marble or granite.

This year has been productive of two new and valuable text-books, one by Dr. Geo. A. Berry, of Edinburgh, and the other by Dr. Henry D. Noyes, of New York. Since the book written by Wells, of London, several years ago, we have not had any general text-book written in the English language, but have depended principally upon the translations of the works of our German and French confrères. While these are very good, yet, we welcome with pleasure these two books written in the English language. They are certainly in advance in all respects of any works hitherto published, and are monuments of earnest, faithful work, which reflect great credit on their respective authors.

In order to give a practical turn to my paper, I will say a few words in relation to the topical use of bichloride of mercury in the treatment of ocular diseases. For the past year I have used it a great deal. It is not a new remedy, but a very old one. If you will consult the oldest book you have on diseases of the eye, you will see that its use is recommended there. It gave place to other and newer remedies, but now in the light of antiseptic investigation we go back to our old friend, and find it one of the most reliable agents we can command. It is a powerful remedy, and must be used with care and discrimination. And right here comes the point of greatest importance: It has generally been used in two strong solutions, and the end to be accomplished has been defeated by this fact. In weaker solutions it acts kindly, surely, and with very slight tendency to excite relapse.

In granular lids I have used it in a good many severe cases, and I have tested it by carefully excluding other well known remedies, and have been much pleased with its effects. In severe cases I used it 1-500, brushing it on the lids, and then washing it off. I found this too strong for regular treatment, the eyes not tolerating it well; I fell into the habit of using it 1-2,000, and found that this did better and only exceptionally caused any unfavorable effect. Occasionally I would use the stronger solution mentioned, but relied on the weaker one. It is not painful, and patients recover from it more quickly than from the use of the crystal of copper or from the ordinary solutions of silver nitrate.

In severe acute catarrhal conjunctivitis its effects were excellent. It was generally ordered in solutions of 1-3,000 or 1-4,000, and used three times a day, and clothes moistened with it were placed over the closed eye-lids. In phlyctenular conjunctivitis and keratitis it seemed to meet every demand required and gave excellent results. Under its influence the phlycten would disappear rapidly, and it seemed to me it prevented the development of new ones.

I have injected it frequently in blenorrhœa of the tear sac and with the most satisfactory results. In purulent ophthalmia it is questionable whether it is more valuable than our old stand-by silver nitrate. There is an objection to it which we must bear in mind, especially where we order it in large quantities, that it is poisonous, and if taken internally might produce dangerous and even fatal symptoms. But the same thing can be said of atropine. The patient should be warned of the danger, and the bottle properly marked. It is a remedy which is bound to meet with increased favor, as is more extensively used in solutions which are suited to the conditions of the eye. The use of the sublimate solution is right in the line of antiseptic treatment, and is worthy of a thorough and unbiased investigation. I hope that its use will receive that intelligent and discriminating consideration which it deserves.

Allow me gentlemen, in conclusion, to express my unqualified confidence in the future success of our Section, and to thank you for your generous and valuable contributions, and to express my high appreciation of the honor you have conferred on me as its chairman.

ADDRESS TO THE SECTION OF DENTAL AND ORAL SURGERY.

Delivered at the Forty-first Annual Meeting of the American Medical Association, at Nashville, Tenn., May 20, 1890.

BY JACOB L. WILLIAMS, M.D.,

OF BOSTON, MASS.

CHAIRMAN OF THE SECTION.

On a brief review of recent advancements in matters pertaining to this Section, we may surely say that there has been very substantial progress during the past year.

Mention should be made of laborious and successful researches on the origin and correction of oral deformities, which have added much to our supply of positive knowledge.

The study of antiseptics has been zealously pursued, further demonstrating their properties, not only as antiseptic in various degrees, but also their qualities as irritant or non-irritant, and as coagulating or non-coagulating.

Attention has been given, and knowledge has been gained in regard to the effects of naso-pharyngeal growths on the form of the mouth, and the perversion of its functions, often to the injury of general health.

The study of special histology has given us positive evidence of some things previously suspected to exist, and pending researches promise new discoveries.

The science of chemistry has continued to lend its aid. And the esthetics of practice have had increased attention given to them. In regard to professional ethics, it may be said that there is still room for further advancement.

But of greatest and most fundamental importance, I think, we may regard the increasing devotion to the consideration and study of the laws of health and disease, on which must be based all intelligent practice in any branch of the healing art.

In a field devoted to agriculture there may be various departments, some for grains, some for fruits, some for flowers; but all must be governed by the laws of vegetable growth and thrift. A disregard of those laws, though accompanied by the most elaborate or ingenious agricultural implements, used by most skilful hands, will surely not result in the largest degree of success. So with the healing art; whoever is best prepared with knowledge of the laws of life, health, and disease, and their relations to professional practice, will find his trained skill the most successful.

It is to be hoped that, in the colleges and schools, increased time and attention will be given to the study of these fundamental principles.

It should not be forgotten that the healing art, though in some of its branches bringing mechanical skill and chemical knowledge to its aid, is itself the beneficent purpose or substance of practice; the design of surgery not being for mechanical display, nor of medicine for chemical demonstrations.

Hippocrates said, "In no one thing does mortal man more resemble the immortal gods, than in giving health to man." And so far as mechanics and chemistry are made therapeutic and prophylactic aids in securing health to mankind, in so far do they become ennobled beyond their ordinary application to "inanimate things."

In earlier years there were only a few qualified practitioners who devoted their knowledge and skill to the treatment of the whole oral cavity, while the larger number gave their attention simply to the teeth; and so the specialty was called "dentistry."

But at this day, when knowledge of the principles of medicine and surgery is more general, and more commonly made available in the treatment of the whole oral cavity, and with reference to its influence on the health of the system, the old term seems too limited. And what now would be a more proper and comprehensive name for the specialty so practiced, than the word *Oristry?*

It is gratifying to know of an increasing general sentiment or principle, pervading this as well as general practice, which perhaps cannot be better expressed than in the line of our poet Holmes, when he wrote, as the motto of our profession, "Our duty is to save."[1]

Every practitioner knows that he is bound in honor to *do his best* for the patient; and the laws of the land hold him to that duty.

If a case for special practice comes to him, and a competent specialist is available, he naturally feels that he is doing his best by referring the patient to the specialist. But if such special treatment is unattainable, he is bound in honor and by the common law to do all he can to save life or limb or member of the patient.

In the variety of legislation in different States, two, at least, recognize this obligation in their statutes. But what shall we say of some State enactments that contravene the great purpose of all humane and proper practice? and assume to prohibit a physician from doing anything in a specialty except to *destroy* a member or organ of the human body; for doing which, also, he, as well as a specialist, may become legally liable for damages.

Special statutes cannot properly prohibit a physician or surgeon from *doing his best* for the benefit of a patient, whatever may be the ailment.

We have the satisfaction of knowing that this Section will be ably represented at the International Congress at Berlin by several of its members of well-known erudition.

Mt. Vernon St., Boston, Mass.

MEDICAL PROGRESS.

THE CAUSES OF FAILURE IN THE TREATMENT OF UTERINE FIBROMATA BY APOSTOLI'S METHOD.—DR. APOSTOLI in a recent communication to the *Gazette de Gynécologie*, takes occasion to explain some of the causes of failure in his method of treating uterine fibroids. He emphasized the statement which he has often made, that his method never aims at a radical cure of all cases, which he says is rather the exception than the rule, but it does aim at the symptomatic cure of the patients, with concomitant, though often limited reduction in the size of the tumors. The causes of failures, he says, may be summarized under three heads: causes depending upon the operator, upon the patient, and upon the treatment. As regards the operator, he finds that failure depends largely upon inexperience in gynecology, lack of operative dexterity, and complete ignorance of physical laws. The capital error consists in mistaking a cyst of the ovary or a tumor of the Fallopian tube for a fibroma, and applying a mode of treatment which is contra-indicated.

Regarding the application of the treatment he finds the following sources of error: A current too feeble, a current too intense, too frequent repetition of the séances, or too long a continuation of the same, absence of antiseptic precautions, insufficient localization of the current, especially in fungous and hæmorrhagic endometritis associated with fibromata, failure to make galvano-punctures, and finally a too early abandonment of the treatment.

As regards the patient herself the causes of failure are not less important. It is important to consider the character, seat and topography of the tumor. In general, it may be said, that other things being equal the effects produced will be greater when the tumor is more completely interstitial and *vice versa.* Soft fibromata are much more amenable to treatment than the hard ones, although whatever the variety may be, electrical treatment sufficiently long continued will produce positive anatomical and symptomatical results. Another cause of failure in the treatment of fibromata regards the failure to recognize lesions of the appendages of various sorts, which under some circumstances may be a cause of permanent congestion and uterine hæmorrhage, and under others a cause of peritoneal inflammation. These are the cases of pyosalpingitis or suppurating tumors of the Fallopian tube which partly escape the action of the continuous current applied to the uterus, but which are amenable in many instances to galvanopuncture applied with a view to making an artificial opening with vaginal drainage. In these cases we now have an explanation only lately recognized, of the cases of sudden death following a simple examination, the introduction of a speculum or some trivial gynecological manœuvre. In these cases there is rupture of a suppurating cyst of the appendages with discharge of pus into the peritoneum, producing a violent peritonitis.

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[1] "The Two Armies," by Dr. O. W. Holmes.

Every collection of pus in the pelvic basin contra-indicates intra-uterine galvano cautery of great strength; the first indication and the most urgent one, is to evacuate the pus; vaginal galvano-puncture in the cul-de-sac serves the double purpose of draining the pocket through an artificial opening, and aiding resolution by the trophic action of the current. In cases of doubt where exploration is insufficient or incomplete what means do we possess of confirming our diagnosis and justifying our intervention? The surest and most valuable is the thermometer. If after a single intra-uterine application of the method in a case believed to be simple, fever or pain is manifested and does not readily yield to treatment, if the temperature remains high (39° or 39.5°), it is necessary to exercise caution, and in all cases a temporary or complete abandonment of intra-uterine treatment becomes necessary. Another examination under chloroform is required, when at the side of the fibroma a tumor of the tube heretofore unrecognized will often be found. Under these circumstances two alterations present: the tumor may be near the vagina and consequently accessible to galvano-puncture and evacuation—which should be secured at once—or it may be too high up for vaginal treatment, when laparotomy becomes necessary. Finally there is a source of failure, the responsibility of which falls upon the patient *id est*, the neglect to observe absolute repose for from one to several hours after every intra-uterine treatment. The infringement of the regulation may provoke serious consequences, such as peri-uterine phlegmon; the physician cannot be too insistent upon this point, especially in cases where there is no painful reaction from the treatment.

CHLORIDE OF ZINC FOR ENDOMETRITIS.—POLAILLON reports on the results of his experience in the use of chloride of zinc in the treatment of endometritis. The remedy is employed in the form of bacilli composed of equal parts of flour and zinc chloride; these vary in size according to the capacity of the uterine canal, but are generally from 2 to 5 millimetres in thickness. The bacillus is held in place by a vaginal tampon. An eschar is produced in a few hours, generally without much pain, and always without febrile reaction. The tampon is removed on the second day, and an antiseptic douche is given. On the third and fourth days the remains of the bacillus and the necrosed tissues are removed, after which the patient is kept quiet for a few days. A single application of the bacillus generally suffices to produce a cure. By the fifteenth or sixteenth day after the application the uterus regains its normal condition; if after this time the secretions continue to appear a second cauterization is practiced. The author finds abundant reason to be satisfied with this plan of treatment, and lays stress upon the various advantages obtained, thus no chloroform and no preliminary treatment is required; there is no danger involved in the treatment and a cure is obtained in most cases.

POISONING FROM SUBLIMATE DOUCHES.—M. CRÉQUY reports a case of abortion with retention of the placenta (the os uteri being closed) in which he used vaginal douches of sublimate 1–2,000) three times a day for two days. The placenta was then discharged and a single intra-uterine douche was given with a double canula. Vaginal douches were then resumed as before, and at the end of two days the patient was seized with colic diarrhœa, vomiting and an intense stomatitis, causing sloughing of the cheeks. For several days the symptoms were grave, particularly that of anuria, which lasted three days, the patient finally making a good recovery. The writer adds that he has observed that sublimate disappears almost instantly from solutions when poured into metallic vessels, or when transferred by means of spoons, etc., from one vessel to another. It is, therefore, necessary to avoid the use of metallic irrigators, which retain the greater portion of the salt, allowing the water to escape almost pure, which, indeed, may possibly be one reason for the rarity of poisoning from sublimate solutions.—*La Sem. Méd.*

DIPHTHERIA AND TYPHOID FEVER.—At a recent meeting of the Berlin Medical Society PROF. VIRCHOW exhibited curves representing the mortality in Berlin from diphtheria and typhoid fever for the years 1883–1888. These curves showed that diphtheria has been much less prevalent of late years, although the mortality has not greatly varied. The greatest frequency of the disease was between the months of October and January. The curves also showed that the epidemic of typhoid fever which occurred in 1888 was especially active in those quarters of the city which are unprovided with water pipes, which goes to prove that the bacillus of Eberth may be transported by the atmosphere.—*La Sem. Méd.*

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LONDON OFFICE, 57 AND 59 LUDGATE HILL.

SATURDAY, MAY 31, 1890.

THE FORTY-FIRST ANNUAL MEETING.

The suburbs of Nashville are proverbial for their beauty, and the city itself throbs with the impulses of a vigorous life. The sanitary conditions are so perfected that it hardly has a rival in the matter of health. It is claimed, indeed, that mortuary statistics are of little value here for the reason that they are so meagre. We are in Nashville at the hour of its most beautiful adornment. Foliage and flowers of exquisite beauty meet us at every hand. The proverbial hospitality of its people has never been overstated, and it seems never to wane.

There is a large attendance at the annual meeting. Many Sections not hitherto specially interested are largely represented. This is well! for once that interest awakened, permanent relationship with the Association is very sure to follow. It is to be hoped that the physicians not only of Tennessee but of the adjacent States are to be more fully identified with this National organization. We are confident that it will receive an added impulse and a renewal of its vigor from the accessions which are being made at Nashville.

The first morning session was held at the Vendome. Every seat on the main floor was occupied and large numbers of ladies and gentlemen were in the galleries. The event of the morning was the President's Address by PROF. E. M. MOORE, M.D., of Rochester, N. Y. It is but simple justice to say that he was at his best! In his Address, which will be found in last week's JOURNAL, he rapidly sketches the National legislation which has been had in matters of sanitation from the inception to the present hour. He paid a most deserved tribute to the work of State Boards of Health, to the Marine-Hospital Service, and gave with emphasis his conviction that the hour was at hand when a distinct Department of Sanitation should be created. He dwells very fully upon what has been done and what should be done in the matter of food-inspection, and the needs of Governmental surveillance of the contagious diseases which imperil our domestic animals. His Address gives strong commendation of the work already done and as strongly urges a more perfect completion in the future.

EDITORIAL NOTES.

INTERNATIONAL MEDICAL CONGRESS.—*The Provincial Medical Journal* says: "The time for the International Medical Congress is drawing near, and arrangements are now being made with various companies for transfer. We had a very pleasant party to America, and we should be pleased to hear from those who went to America, and others, so as to form a special contingent to Berlin. This Congress promises to be well attended, and probably 5,000 medical men will be present. From what we hear the Congress will be one of great scientific interest, and all the arrangements will be admirably carried out."

DEATH OF DR. W. H. BYFORD.—We regret to have to chronicle the death of Dr. Wm. Heath Byford, of Chicago, the eminent gynecologist, who succumbed to an attack of angina pectoris after an illness of only two hours. Dr. Byford was born in 1817 and was 73 years of age. He began practice in 1838; from 1850 to 1854 he held a professorship in the Evansville Medical College. In 1857 he was elected to the chair of obstetrics at Rush Medical College. From the foundation of the Chicago Medical College in 1859 to 1880 he filled the chair of gynecology in that institution, and from 1880 till his death he held the same chair at Rush. He was the most active mover in the organization of the Woman's Medical College established in 1869, and has ever since been its president and one of its professors. Dr. Byford was a member of all the leading medical associations of the country. He held the vice-presidency for a time of the American Medical Association, and was president of the American Gynecological Society. Besides the two professorships he held, Dr. Byford was the Surgeon-in-Chief at the Woman's Hospital on the south side, and consulting physician at the Hospital for Women and Children on the west side. In addition he was connected more or less closely with other hospitals and dispensaries. He was a frequent and able contributor to the medical press, and for four years was the editor of the *Medical Journal and Examiner*. In the more substantial forms of authorship more than one of his works is used as a text-book in medical colleges.

THE NATIONAL ASSOCIATION OF MEDICAL COLLEGES.—The Conference of Medical College Delegates held at Nashville on the 22d inst., has resulted in the formation of an association with the above title, the object being to secure needed reforms in the system of medical education. The following officers were elected: President, N. S. Davis, M.D., LL.D., Chicago, ex-president of the last International Medical Congress; secretary and treasurer, Perry H. Millard, M.D., St. Paul, dean of the Department of Medicine of the University of Minnesota.

CHICAGO POLICLINIC.—The names of Drs. F. C. Hotz and G. Füterer have been added to the Faculty of the Chicago Policlinic.

MEDICAL SOCIETY OF NEW JERSEY.—The one hundred and twenty-fourth annual meeting of this Society will be held in the Heath House, Schooley's Mountain, on June 10 and 11, commencing at 4 P. M. on Tuesday the 10th. Committee on Organization will meet in the drawing-room at 3 o'clock P. M. Delegates are requested to present their credentials at that time. All members of district societies not in arrears to this society are entitled to seats as corresponding members, and when they report themselves to the Secretary their names shall be entered on the minutes. Members who desire to present voluntary papers or reports of cases should communicate by letter with Dr. H. R. Baldwin, New Brunswick, Chairman of Business Committee.

THE RUSH MONUMENT.—The report of the Chairman of the Rush Monument Committee to the meeting of the American Medical Association showed that responses to the appeal for aid to build the monument had not been liberal. It was hoped, however, that by personal applications sufficient funds would be raised to lay the corner-stone of the monument at the opening ceremonies of the Columbia Quadri-Centennial in Washington.

MEDICAL SOCIETY OF THE STATE OF PENNSYLVANIA.—Arrangements have been made for exhibits at the meeting of the Pennsylvania State Medical Society. Exhibits will be in Grand Central Rink, a few doors from the Bijou Theatre, where the meetings will be held.

THE SECTION OF MEDICAL JURISPRUDENCE of the American Medical Association will hereafter be known as the Section of Neurology and Medical Jurisprudence.

OHIO STATE MEDICAL SOCIETY.—The forty-fifth annual meeting of this Society will be held at Columbus, O., from June 4 to 6, 1890. The sessions will be held in the Auditorium of the Board of Trade Building, East Broad Street, near High Street. First session at 2 P.M., Wednesday, June 4. Reduced rates may be obtained on all railroads on the following conditions: Each person must purchase a first-class ticket to Columbus; he must obtain from the ticket agent a certificate of such purchase, which agents are instructed to furnish on request; he must have this certificate signed by the Secretary at the meeting. On presentation of this certificate to ticket agents in Columbus, they are instructed to sell return tickets at one-third the highest limited fare. Tickets should not be purchased more than three days prior to the meeting. Tickets are good for three days after the meeting, and are not transferable. Return tickets are limited to continuous passage. If through tickets cannot be procured at the starting point, purchase ticket to most convenient point where they can be procured, and buy ticket and get certificate from ticket agent there. No refund of fare will be made on any account whatever because of failure to obtain certificate.

A POLICLINIC has been opened in Paris.

PROF. GOTTSTEIN.—The honorary title of "Professor" has been conferred on Dr. Gottstein, of Breslau, who, though he has for many years been recognized as one of the foremost laryngologists in Germany, has hitherto had no higher rank in the teaching hierarchy than Privat Docent.

AMERICAN MEDICAL ASSOCIATION.

Forty-first Annual Meeting, held at Nashville, Tenn., May 20-24, 1890.

GENERAL SESSION.—FIRST DAY.

The Forty-first Annual Session of the Association was held at Nashville, Tenn., at the Vendome, Church St., Tuesday, May 20, at 11 A.M. The President, Dr. E. M. Moore, of New York; Vice-President Dr. Thos. B. Evans, of Maryland; the Permanent Secretary, Dr. Wm. B. Atkinson, of Pennsylvania; Assistant Secretary, Dr. G. C. Savage, of Tennessee; Librarian, Dr. C. H. A. Kleinschmidt, of District of Columbia; and Treasurer, Dr. R. J. Dunglison, were present.

The meeting was called to order by Dr. W. T. Briggs, Chairman Committee of Arrangements.

Prayer was offered by Rev. Jerry Witherspoon.

Dr. Briggs welcomed the members on behalf of the profession of the State.

His Excellency, R. L. Taylor, Governor of Tennessee, welcomed them on the part of the State, and the Hon. P. C. McCarver, Mayor of Nashville, on the part of the city.

The reading of the list as registered was postponed.

Dr. Briggs announced the programme and invitations.

Letters of regret were read from Dr. W. A. Phillips, of the Judiciary Council, and Dr. R. Battey, of Ga.

Vice-President Evans took the Chair, when the President delivered the *Annual Address* (see page 737). On motion of Dr. Brodie, seconded by Dr. Grissom, of N. C., thanks were tendered the President for his able address, and a copy requested for publication.

On motion of Dr. Schenck, of Mo., that part of the address referring to State Medicine was referred to a committee of five to report how it could be carried into execution.

Dr. Atchison, of Tenn., asked the attention of all to the efforts of the ladies in behalf of the Jackson Tomb and Hermitage.

After the announcement of the meeting of the State delegations to select members of the Nominating Committee, the Association adjourned until Wednesday, at 10 A.M.

SECOND DAY.

The Association was called to order at 10 A.M. by the President.

Prayer was offered by Rev. Dr. Winchester.

A number of invitations were announced by the Chairman of the Committe of Arrangements.

The Permanent Secretary called the roll of States and the following were reported as constituting the Committee on Nominations:

Ala., W. H. Sanders; Ark., J. A. Linthicum; Cal., Winslow Anderson; Col., E. B. Carlin; Conn., W. C. Wile; Dak., S. J. Coyne; D. C., R. Reyburn; Fla., J. P. Wall; Ga., T. S. Hopkins; Ill., J. H. Hollister; Ind., G. J. Cook; Ia., D. D. Crouse; Kan., J. E. Minney; Ky., W. H. Wathen; La., J. J. Bland; Me., A. Garcelon; Md., A. A. Friedenwald; Mass., J. L. Williams; Minn., J. H. Murphy; Mich., H. O. Walker; Miss., D. W. Trimble; Mo., W. P. King; N. J., W. Perry Watson; N. Y., H. D. Didama; N. C., Eugene Grissom; Neb., W. M. Knapp; Ohio, E. H. Hyatt; Penn., W. H. Daly; S. C., G. J. Mackin; Tenn., J. B. Murfree; Texas, B. H. Eves; Utah, F. H. Bascom; Vt., C. L. Allen; Va., J. E. Chancellor; W. Va., C. T. Ulrich; Wash., W. T. Willsey; New Mexico, E. L. Stephens; U. S. Army, J. H. Baxter; U. S. Navy, E. Dean; U. S. Marine-Hospital Service, J. B. Hamilton.

On motion of Dr. W. Anderson, the Committee was given leave of absence in order that it might meet at once.

Invitations for the next session to be held in California, Colorado, and Nebraska, were read and referred to this Committee.

On motion of Dr. Callender, the name of the Section on Medical Jurisprudence was changed to the Section on "Neurology and Medical Jurisprudence," *nemo contradicente.*

Dr. W. B. Atkinson asked that the By-laws be changed to permit of the election for each Section of a Vice-Chairman, in addition to a Chairman and Secretary.

Upon this, Dr. J. M. Keller asked action upon his amendment offered two years ago and laid over, repealing the action by which the officers of the Sections were elected by the Sections.

Dr. Culbertson offered a resolution asking for the appointment of a committee of nine to revise the working plan of the Association, to report at the next annual meeting.

On motion of Dr. N. S. Davis, of Ill., the whole matter was laid on the table till the regular order of business had been attended to.

Dr. N. S. Davis then read the *Address on General Medicine* (see page 746).

On motion of Dr. W. Brodie, Mich., the thanks of the Association were tendered Dr. Davis for his able paper, and a copy requested for publication.

The Permanent Secretary read the report of the Rush Monument Committee, for the Chairman, Dr. A. L. Gihon, who was absent.

REPORT OF THE RUSH MONUMENT COMMITTEE.

The recent publication, in THE JOURNAL of the Association of April 26, of the report presented by your committee at your last annual meeting at Newport, R. I., and of the able Address in Medicine, on the same occasion, by the Provost of the University of Pennsylvania on the life and services of Benjamin Rush, establishing his lofty claims upon the profession "as the high-spirited patriot, the wise and far-seeing reformer and philanthropist, the eloquent teacher and writer, and, above all, as *the founder of scientific medicine in America*," render it scarcely necessary for them to do more than reiterate what was then said, and to ask from every member of the Association the careful perusal of Dr. Pepper's admirable discourse, confident that they will agree upon but one reply to the question with which he concludes his paper: "Is it not our duty, shall it not be our pride, to rear in enduring form a *fitting memorial* of our gratitude?"

Your Committee confess, to considerable disappointment, that their published appeals have thus far met with so little response. The enthusiastic approval of the projected monument at the meetings of the Association has given them every reason to believe that the modest contributions solicited would be promptly, generously and spontaneously given. It was thought, moreover, that the examples of other professions, like those of Science and the Law; of smaller bodies, such as the little community of deaf-mutes, whose statue of their beloved and honored teacher, Gallaudet, was projected, designed, executed and unveiled, since this to Rush was undertaken; of a foreign people, as the Italians, whose monument to their own patriot-physician, Agostino Bertani, was likewise conceived since ours, and now stands completed in Milan, would determine the physicians of this country to show to all Americans that they too had a great man to whom they were proud to render conspicuous honor. The personal friends and admirers of Ricord, in France, are proposing to commemorate him by a statue, as those of Marion Sims are about to do in the United States, but Ricord, and Sims, and McDowell, and Flint, and Gross, and many more of our brilliant and renowned physicians, are commended to us for other than the reasons which make Benjamin Rush an eminently National figure, and as such an especial claimant upon the regard and veneration of men of every branch of our profession, and from every section of our country. Because in his person is exemplified the part a physician of the profoundest professional attainments can fill with distinction in public affairs at their most critical junctures; because, among the grand, heroic personages of the period of the Revolution, of whom Americans entertain such reverential pride, Dr. Benjamin Rush was the peer of them all in intelligence, patriotism, bravery, dignity and executive ability; because, while our Declaration of Independence and our Federal Constitution endure, he, as a signer of the one and an author of the other, is a part of the history of this Republic; for these reasons alone every physician of this age should honor him, and reverently transmit the record of his illustrious services to the generations that are to follow.

The beautiful green Mall at Washington, on which stand the Smithsonian Institution, the National Museum, and that splendid edifice, for which we are indebted to the medical officers of the Army, the Army Medical Museum and National Medical Library, is the appropriate site for the effigies of the pioneers in scientific research in this country. Already the bronze figure of Professor Henry graces this classic ground; soon that of Daguerre and those of Morse and Spencer Baird will follow. Whose face and form but of Rush should stand before that grand storehouse of the labors of the physicians of all time, his own literary works among the choicest treasures on its shelves, his treatise on insanity having for seventy years been the standard authority on that subject *in Europe as in his own country*?

Should the direct appeal which your Committee has made in the International issue of THE JOURNAL of the Association for May 3, to each of the hundred thousand physicians in the United States, "to send a contribution, however small, immediately to the Treasurer, Dr. DeWitt C. Patterson, of Washington, D. C.," fail to effect its object, it is proposed to make personal application to men, who are known to be in sympathy and accord with this movement, so when the Association next assembles in Washington, as it is hoped it will do coincidently with the opening ceremonies of the Columbian quadricentennial celebration, the corner-stone of the Rush Monument shall then be laid. By this time it may be definitely known whether the memorial shall be the imposing one your Committee have in view, or such humbler testimonial as the money they may then have in hand, shall justify them in obtaining. Your Committee desire that it shall be "a fitting memorial of our gratitude," expresive of the popular appreciation, by as many in number as possible of the members of the profession, of the eminent services of this great physician. When it is recalled how small a contribution from every physician in the United States, would suffice to erect a statue notable among the many notable ones already at the National Capital, it is still hoped that this last appeal may meet with generous response. Whatever be the result, your Committee pledge themselves to devote the sum they may have received, be that however little, to their contemplated purpose of thus commemorating "the greatest physician this country has produced."

Respectfully submitted:

ALBERT L. GIHON, Chairman.

GEORGE H. ROHÉ, Secretary.

Dr. D. W. Patterson, of D. C., Treasurer of the fund, read the report of collections for the fund, amounting to $1,505.69, the expenses being $17.55, leaving $1,488.19 in the fund.

On motion of Dr. J. M. Toner, of D. C., both reports were accepted and ordered to be published in THE JOURNAL.

Dr. P. O. Hooper, of Ark., read the report of the Trustees of THE JOURNAL:

REPORT OF THE BOARD OF TRUSTEES FOR THE PUBLICATION OF THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION FOR THE JOURNAL YEAR ENDING MARCH 31, 1890.

The Trustees for the publication of THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION beg leave to submit this their seventh annual report:

The office of publication has been continued at Chicago since the foundation of THE JOURNAL, although the Trustees have at different times invited competitive bids for its publication in other cities, but always with this uniform result, that it can be issued cheaper in Chicago than elsewhere.

THE JOURNAL, or rather the Association, owns its own plant, which is well equipped for the work it has to do. The printing office consists of type, cases, bindery and all supplies necessary to the publication of THE JOURNAL except the press. The presswork is done under a favorable contract in the same building in which its office is located.

The value of the printing office and office fixtures is estimated at $2,021.26. A present expenditure of about three hundred dollars is required for type which needs renewal.

It will have been observed that THE JOURNAL has been edited for a little over a year by the Committee on Management, under the Trustees, one of whose members has been constituted Supervising Editor.

The weekly issue of THE JOURNAL has been mailed with uniform regularity on the day set for its publication, in good typography and with good paper.

The increase in circulation has been steady, as is shown by the report of the Committee on Management to the Trustees. It has now a weekly issue of 5,100 copies.

The total income of THE JOURNAL from subscribers, advertisers, etc., amounts (for the current year) to $14,154.91. The report of the Treasurer, Dr. R. J. Dunglison, will show the amount in the treasury now on hand.

All of which is respectfully submitted.

J. M. TONER,
P. O. HOOPER,
LEARTUS CONNOR,
W. T. BRIGGS,
ALONZO GARCELON,
I. N. LOVE,
W. W. DAWSON,
JOHN H. HOLLISTER,

On motion of Dr. W. Brodie, of Mich., the report was received and ordered to be published in THE JOURNAL.

Dr. C. Seiler, of Penna., having asked relative to the delay in the publication of some papers read at the last annual meeting, Dr. Hooper replied for the Editorial Committee.

Dr. C. G. Comegys, of Ohio, offered the following resolution:

Resolved, That the President appoint a committee of one from each State now represented at this session of the Association, to consider the report of the managers of THE JOURNAL of the Association, and to recommend, if any, what steps should be taken to enlarge the volume of THE JOURNAL, to strengthen its editorial management, and to widen its circulation, so that it shall be found abundantly in all parts of the Nation and represent the medical progress of the age.

Dr. Comegys, in support of his resolution, said: In offering this resolution I have no thought of disparaging, directly or indirectly, the management of THE JOURNAL now or at any time since the first day of its creation. It was a most important, indeed, an essential undertaking, and has, considering the resources at the command of the managers, been most ably conducted. Its foundation and superstructure have been reared by a wise and energetic Board of Managers. It is impossible to develop any controversy on that subject, and I am sure that the gentlemen who have edited and managed THE JOURNAL are as anxious as any of its supporters to increase its usefulness in any practical manner that can be pointed out. Therefore, in begging the support of members now for the passage of my resolution, I wish distinctly to be understood that its whole object is to ascertain if this great representative body of the true medical profession is desirous to enlarge the capacity of THE JOURNAL so as to make it universally acceptable—indeed, the pride and boast of the profession.

THE JOURNAL, thus far, has been nourished by the love of the Association for its offspring, and has been held up and made as strong as the annual contributions of the members, with advertising profits, could justify; yet, however, it can not stand alone, independent of the Association treasury, like many of our great local journals stand self-supporting; its capital is not abundant and sufficiently substantial for this.

Now, it seems to many of us that the time has come for a great movement to be initiated which shall place THE JOURNAL on such a deep and broad foundation, and give such largeness and increased capacity to its functions, that the annual subscribers gained so liberally at the annual meetings of the Association shall not fall away, but be held to the subscription list by a willing choice, and that the profession at large shall become its patrons.

Many of us believe that the day has dawned in the light of which THE JOURNAL shall lead the

Association, be its formidable and luminous guide and minister, and represent the intelligence, feeling and force of fifty thousand of the most self-sacrificing, cultured, influential and upright men in the United States.

Let us see if, at this auspicious meeting in this fair city of the Southland, a new and irrefragible bond of union shall not be cemented whose whole mission shall display a lofty and imperishable energy for the direction and support of our best humanity.

After discussion by Drs. J. V. Shoemaker, of Penna., and J. M. Keller, of Ark., on motion of the latter the resolution was laid on the table.

Dr. N. S. Davis, of Ill., was on motion permitted to reply to the remarks of Dr. Seiler.

On motion of Dr. Keller, his amendment relative to the selection of the officers by the Committee on Nominations, in place of by the Sections themselves, was called up.

A motion by Dr. Moyer, of Ill., to lay this on the table, was defeated.

A vote on the motion to repeal the action and have the election by the Committee on Nominations was adopted, 72 ayes, 61 nays.

The question being asked if it did not require a vote of three-fourths in favor to make this change, caused some discussion as to whether the amendment was to the By-laws or the Constitution. The President finally decided that the change was a constitutional one and required due notice and a three fourths vote to adopt it.

The following telegram, dated at Chicago, was read from Second Vice-President Kimball: "Am called back from here to Minneapolis. Cannot attend meeting. Wish you all a good time."

The Association then adjourned until Thursday at 10 A. M.

Reports of Sections.

Section of Practice of Medicine, Materia Medica and Physiology.

First Day.

Meeting called to order by the Chairman, Dr. John H. Musser, of Philadelphia, in the Vendome at 3 P.M.

The Secretary being absent, on motion of Dr. Sawyer, of Ohio, Dr. George Dock, of Galveston, Tex., was elected to fill the vacancy.

The Chairman called attention to the rules governing the proceedings of the Section.

The Chairman then read the *Annual Address*, which will be printed in full at an early date.

Dr. De Saussure, of Charleston, S. C., read a paper on *The Histories of Twenty-two Cases of Filaria Sanguinis Hominis.*

Dr. Lovering, of Ohio, spoke of the similarity between the symptoms as observed by Dr. De Saussure, and those of trichinosis as seen by himself.

Dr. Kelly, of Baltimore, mentioned some cases seen in Baltimore, under the care of Dr. Osler.

Dr. De Saussure, in closing, said all cases so far seen in the North had come from the South.

Several papers on the programme were not read owing to the absence of the authors. Dr. C. H. Shepard, of Brooklyn, N. Y., read a paper on *Rheumatism and its Treatment by the Turkish Bath.* Discussed by Drs. Ulrich, Didama, Cronin and Bailey.

Dr. J. W. Davis read a short paper on the *Use of Calomel in some forms of Chronic Dysentery and Flux*, which was discussed by several members. Adjourned.

Second Day.

Section called to order at 2:30 P. M.

Dr. George Fackler, of Cincinnati, O., read a paper on *Calomel as a Diuretic.*

Dr. Ulrich, of Wheeling, W. Va., gave his testimony as to the diuretic action of calomel.

Dr. Caldwell, of Florida, had used bichloride in the dose of ⅛ gr. t. i. d., along with ammonium chloride, and thought the combination gave better results than calomel, especially in regard to salivation.

Dr. DeSaussure, of South Carolina, said he had used bichloride as a diuretic with good results, and also calomel, but gave the latter in larger doses than the writer of the paper.

Dr. Fackler said that on the whole calomel was least liable to salivate.

Then followed the discussion on the *Continued Fevers of the South*, opened by a paper by Dr. W. W. Johnston, of Washington, D. C., read by the Secretary.

Dr. Wall, of Tampa, Fla., continued (see Dr. Wall's paper), followed by Dr. Happell, of Tennessee, Dr. Shephard, of Tennessee, and Dr. Dock, of Texas (see papers).

Dr. Sears, of Texas, said he had had a large experience with continued malarial fever, cases of which often run into the typhoid state. This he called typho-malarial, somewhat after the analogy of typhoid-pneumonia, etc. He said all patients of his who were treated with quinine recovered. He gave them quinine in doses of one to two ounces during the progress of the disease, and though the fever was not reduced, he attributed the recoveries solely to the drug.

Dr. Van Eman, of Kansas City, said that all the continued fevers seen in his practice had been enteric, as demonstrated by autopsies in fatal cases. He thought two ounces of quinine more likely to kill than cure.

Papers were read on *Specific Treatment of Typhoid Fever*, by Dr. J. H. Van Eman, of Kansas City; *Has Progress Been Made in the Treatment of Typhoid Fever?* by Dr. Happell, of Tennessee; *Treatment of Insomnia and Neuralgia by Butyl*

Chloral Hydrate, by Dr. H. A. Hare, of Philadelphia.

Dr. Crawford, of Illinois, presented a patient showing obscure symptoms, and requested a diagnosis from members of the Section.

The Chairman suggested that the Secretary request a number of members to examine the patient and report.

Dr. J. P. Sawyer, of Cleveland, O., read a paper on *Auto-Intoxication from Nitrogenous Elements of the Food When Taken in Excess.*

The Chairman asked the Section what action it wished to take in regard to the suggestion of Dr. Johnston, viz.: to have a collective investigation of the continued fevers of the South, with a view of establishing their nature.

A motion was made and carried that a committee be appointed by the chair to report next year.

The Chairman appointed as Section Nominating Committee the following: Drs. Vaughan, of Michigan, Chairman; French, of Ohio; De Saussure, of South Carolina; Happell, of Tennessee, and Sawyer, of Ohio.

The Section then adjourned to meet at 2 P. M. on Thursday.

Section of Ophthalmology.

FIRST DAY.

The Section was called to order on Tuesday, at 3 P.M.

The Chairman, Dr. S. C. Ayres, read an excellent address (see page 789.)

Dr. Cheatham, of Louisville, read a paper on *The Use of Jequirity*, in which he advocated the use of powdered jequirity in cases of trachoma with pannus. Several cases thus treated were reported.

Dr. T. E. Murrell, of Little Rock, Ark., read a paper entitled *A Danger in the Use of Jequirity Heretofore Unmentioned*, in which reference was made to two cases in which instillation of jequirity was followed by acute inflammation of the lachrymal sac, which necessitated opening, and afterwards probing had to be done to overcome the stricture.

These papers were discussed by Drs. Post, St. Louis; Bradford, Ky.; Tilley, Chicago; Thompson, Kansas City; Savage, Nashville; Frothingham, Detroit; Dickinson, St. Louis; Scott, Cleveland, O.; Holmes, Cincinnati; Fulton, St. Paul; Smith, and Baker, Cleveland.

Dr. J. E. Sinclair's paper on *Enucleation in Panophthalmitis* was read by title.

Dr. A. R. Baker, of Cleveland, O., read a paper on *Functional Nervous Diseases*, in which he stated that the majority of the cases of muscular asthenopia are due to errors of refraction, and that it should not be forgotten that a certain neurotic element is at the bottom of all the symptoms. This paper was discussed by Drs. Hotz, Chicago; Frothingham, Detroit; Savage, Nashville; Minney, Topeka, Kan.; Price, Nashville; Connor, Detroit; De Schweinitz and Jackson, Philadelphia.

Dr. C. H. Goode, of Cincinnati, read a *Report of Case of Sympathetic Inflammation two weeks after Enucleation of the Injured Eye.* The case was that of a boy who was struck in the eye by a stone. The eye was enucleated on account of the great extent of the traumatism. Two weeks after the operation the patient returned with iritis. V. $\frac{20}{70}$. Atropin used; leeches applied. The condition improved. A relapse took place, but recovery ensued with V. $\frac{20}{60}$, and nothing anomalous in the fundus. This paper was discussed by Drs. Cheatham, Louisville, and Fulton, St. Paul.

Dr. F. C. Hotz, of Chicago, then exhibited a simple and reliable astigmometer. The claims made for the instrument are its simplicity and the quickness with which astigmatism is diagnosticated, and the position of the meridian discovered. This paper was discussed by Dr. Murrell, of Little Rock, Ark.

Dr. Frothingham moved that all ophthalmologists attending the meeting of the Section give their names and address to the Secretary. Carried.

The committee appointed at the Fortieth Meeting by the Ophthalmological Section, with the consent of the General Assembly, to urge the adoption of such measures by the Government in the Census of 1890 as shall contribute more efficiently to the causes of blindness in the United States, reported that after due correspondence, a schedule had been adopted which will be placed in the hands of every physician, which will greatly facilitate the work. The report of this committee will be published in full in THE JOURNAL.

SECOND DAY.

The Section was called to order by the Chairman at 2:30 P.M. The Committee on Nominations reported that they had unanimously agreed on Dr. Leartus Connor, of Detroit, as Chairman, and Dr. T. E. Murrell, of Little Rock, Ark., as Secretary.

Dr. G. E. Schweinitz, of Philadelphia, read a paper on a *Clinical Study of a Series of Cases Exhibiting Slight Macular and Perimacular Changes.* The changes were noted in cases of astigmatism, and were divided into the following groups: 1. Asymmetrical lesion situated in the macular region of the eye presenting the greater error of refraction. 2. Symmetrical macular changes—refractive error. 3. Asymmetrical lesion, situated in the macular region of the eye presenting the smaller error of refraction. 4. Symmetrical macular changes, asymmetrical refractive error; probable influence of constitutional derangement. 5. Slight macular changes—no apparent result if exposed to bright sunlight. This paper was discussed by Drs. Cheatham, Dickenson, Murrell, Randall and Tilley.

Dr. Murrell read a paper on the *Correction of the Smaller Forms of Astigmatism*, in which he strongly advocated the correction of all forms which gave rise to any asthenopic symptoms. Atropine was used in all cases, so as to correct the whole amount of the ametropia. The paper was discussed by Drs. Taylor, Thompson, Randall, Savage, Connor, Hotz, Jackson, Lippincott, Gardiner, Starkey and Frothingham.

Dr. W. T. Montgomery, of Chicago, not being present, the Chairman read his paper on *Progressive Hypermetropic Astigmatism* by title.

Dr. J. Morrison, of Louisville, read a paper on *A Case of Transplantation without Pedicle for Cicatricial Entropium.* The case was one of marked entropium produced by a premature blast. The integument was taken from the arm. The size of the flap was 3½ inches long by 1½ inch wide. The case did very well After three weeks the surface contracted to one-third the original size. Discussed by Drs. Holmes, Starkey and Hotz.

Dr. Edward Jackson, of Philadelphia, read a paper on *Tests of Visual Acuteness and the Standard of Normal Vision*, in which he advocated a more definite and accurate means of testing than the usual test types. Illumination to be reliable must be constant, and a good gas argand burner at about 15 inches from the card was recommended. It was maintained that Snellen's angle of 5° is too large, 4.5° being quite sufficient. A number of test cards made under this angle were exhibited. In order to keep exact records of visual tests a card was exhibited in which the test was a square figure subtending a visual angle of 3′, from one side of which a 1′ square was removed. This paper was discussed by Drs. Starkey and Randall.

Dr. Robert Tilley, of Chicago, read a paper in which a case of *Left Lateral Homonymous Hemianopsia associated with a wound of the Occipito-Parietal Region* was described. The case was that of a man who was struck on the head, walked to his home and fell unconscious and remained so for some time. Eyes normal, left pupil larger than right. V. = fundus, a slight choroidal crescent in field of vision. The line of vision was perfectly vertical except at the point of fixation. The wound was situated on the right side of the head. This paper was discussed by Drs. Schweinitz and Jackson. Dr. Tilley also exhibited an instrument for the rapid measurement of the radius of curvature of lenses.

Dr. C. R. Holmes read a paper on *Hæmorrhage fter Cataract Extraction.* The case was one of ouble black cataract. The first eye was operated l healed normally; the sec nd eye was operated F operation normal. Two d s afterwards hæm- l ge took place. The eye as enucleated six betw afterwards. Dr. Holmes lso read a paper Sauss *Use of Boracic Acid and assage in Pan-* himsel er using this process and emedy for one year, he has adopted it entirely. It is rapid and most effectual. Discussed by Drs. Tilley, Hotz and Frothingham.

THIRD DAY.

The Section was called to order by the Chairman at 2:45 P.M. Dr. Jno. Fulton's paper on the *Amblyopia of Strabismus* was read by title.

Dr. R. Alex. Randall read a paper on *The Use of Mydriatics in the Correction of Errors of Refraction.* The correction of small forms of astigmatism was advocated. The use of mydriatics for fitting glasses was strongly advised, and full correction was laid down as the general rule, very few exceptions being admitted. The paper was discussed by Drs. Smith, Chattanooga; Lippincott, Pittsburg; Schweinitz, Philadelphia; and Jackson, Philadelphia.

Dr. Geo. E. Frothingham, of Detroit, read a paper entitled *A Case of Lenticular Astigmatism acquired by the long use of Spectacles having Faulty Position.* Glasses + 0.75 were prescribed for a young man, who afterwards received from an optician + 3 for reading. When examined four years later a myopic astigmatism of 0.50 on the vertical meridian was discovered, which under atropine became hypermetropic astigmatism + 0 50 in horizontal meridian. The change in refraction was attributed to the astigmatism produced by the faulty position of the lens, requiring an irregular contraction of the ciliary muscle to neutralize it, and which became permanent. The paper was discussed by Drs. Jackson, Philadelphia; Tilley, Chicago; Savage, Nashville; and Randall, Philadelphia.

Dr. Thompson, of Kansas City, read a paper describing an easy and reliable way of preserving macroscopical specimens.

Dr. Sinclair, of Nashville, Tenn., reported *A Case of Sarcoma of the Choroid.* The disease was found in a lady. Has had pain in the eye for two years. The lens was opaque. Although Dr. Sinclair suspected tumor he performed iridectomy, giving relief for six weeks. Pains returned and the eye was enucleated. The microscopical examination revealed a small spindle-shape sarcoma of the choroid. Three years have elapsed and there are no symptoms of return of the disease.

Dr. Smith, of Chattanooga, exhibited a case for carrying the ophthalmoscope, its merits being that it occupies but little space and protects the ophthalmoscope.

The Chairman appointed Drs. Frothingham, Jackson and Gardiner on the Committee on Publication.

Dr. Lippincott exhibited an instrument for syringing the anterior chamber.

Dr. Frothingham moved a vote of thanks to the Chairman and Secretary.

Dr. Gardiner moved that Dr. Savage, as member of the Entertainment Committee, be requested to convey the thanks of the Section to the Ladies' Committee for the hospitable manner in which they have received the visiting ladies.

The meeting then adjourned.

Section on Diseases of Children.

FIRST DAY.

Meeting called to order at 3:30 P.M., Dr. I. N. Love, Chairman, presiding.

The annual address of the Chairman was by consent postponed until the following day.

On motion of Dr. Latimer, of Maryland, the Committee on Dietetics was invited to coöperate with this Section, and if agreeable to the Committee, to become a part of this Section. Carried unanimously.

Dr. G. Frank Lydston, of Chicago, read a paper entitled, *A Plea for Operative Interference in Peritonitis, with especial reference to Peritonitis of Obscure Origin in Children.* The doctor in his paper deprecated the opium treatment, which he regarded as not only useless but many times positively harmful. He regards peritonitis emphatically as a surgical disease, and there is absolutely no such thing as primary idiopathic peritonitis. He believes that physician and surgeon should treat the cases conjointly, the physician calling on the surgeon only after the failure of medicinal treatment, but soon enough to be of use, citing several cases illustrating his strong position, regarding nearly all forms as subjects for surgical interference. He further observed that children were more liable to inflammation of this membrane by the comparatively heavy weight and lighter supporting ligaments of abdominal viscera, causing heavier impact from concussion.

Dr. H. A. Hare, of Pennsylvania, disagreed with the writer in his sweeping assertions. Paralleled serous inflammation as being amenable to medicinal treatment, and only in septic cases was surgical interference indicated. He referred to Dr. Fitch, of Boston, who reported that out of seventy-two cases, 40 per cent. had recovered by medicinal and only 11 per cent. by surgical means. Believed that saline cathartics should only be used where there was an absolute certainty in the diagnosis, and where there was no weakening or perforation of the intestinal walls. He believes that cold is one of the most common causes of the so-called idiopathic peritonitis.

Dr. Larrabee, of Kentucky, said that while not agreeing with all the deductions contained in the paper, he commended it as calling attention to a most important subject for study.

The prevailing bacterial craze tends to make us timid in operative procedure, and would account for some failures to operate early when indicated. Infantile peritonitis causes many deaths from our failure to recognize it as such in time to treat it. He strongly advocated the use of opium, as borne out by results in his own practice. He had found intraperitoneal inflammation coming from constipation apparently due to the sedentary life of school-children. Early operation was correct, but be sure there was pus.

Dr. Wm. Perry Watson, of New Jersey, liked Dr. Lydston's position, and probably would have the operation performed earlier than heretofore. He believed that operation was called for more frequently in perityphlitis than in acute peritonitis.

Dr. Love, of Missouri, emphasized importance of early diagnosis. Ascertain certainly that there is or is not a history of previous injury. He cited interesting cases of supposed typhoid fever in which the history and autopsy showed peritonitis. He would impress upon parents of children the necessity of close observation after even slight injury, until all possible danger is past.

Dr. E. A. Wood, of Pennsylvania, always gave opium. Never operates until other means are exhausted, and then only when pus is shown to be present, as evinced by threatened pyæmia or septicæmia. Cited a case of a woman in whom the indications called strongly for surgical interference, who got well without operation; another case was treated to the full extent of medicine, and when about to die was saved by timely operation.

Dr. W. D. O'Brien, of Pennsylvania, thinks we are timid in the use of opium in infantile peritonitis. He cited a case of a child in its seventh year with acute peritonitis, in which he ordered morph. sulph. to be administered as often as necessary to keep the child quiet and free from pain. To gain this result the child received 55 grs. (Power & Wightman's) in forty-eight hours, dispensing it himself, and for fear of non-absorption he caused it to be administered in solution.

Dr. Lydston closed the discussion with the statement that he referred more particularly to the so-called idiopathic cases which were actually traumatic. He did not condemn the opium treatment *per se*, but believed it obscured the surgical indications.

Dr. S. Henry Desson, of New York, sent a paper entitled *Therapeutical Value of Antipyrin in Diseases of Children*, which was read by Dr. Wm. Perry Watson. Dr. Desson believes that this is a type of the most valuable remedies of recent introduction. Its action is not only antipyretic, but sedative; useful as an antipyretic only in the pneumonia of children. Most marked success had been shown in the treatment of chorea; here it acts purely as a sedative. In rheumatism he believes its action to be antiseptic. Has found that in pertussis its action is to shorten the duration of the disease.

Dr. Larrabee, of Kentucky, in opening the discussion, stated that he regarded antipyrin as a very dangerous drug, because of its sedative action on the heart. A pale countenance, with a high fever, was a contraindication.

Dr. Hare considered the use of antipyretics of this class as uncalled for, as well as dangerous.

Dr. G. W. McNeil, of Pennsylvania, uses antipyrin in cases of pneumonia, for its antipyretic and sedative effects. Had found that when the blueness occurs from its administration, the use of digitalis would prevent this alarming symptom.

The Section adjourned at 6 P. M. to meet on Wednesday at 3 P. M.

SECOND DAY.

In the absence of Dr. Love, on motion, Dr. Larrabee, of Kentucky, was called to the Chair.

The Significance of High Temperature in Children was the title of a paper by Dr. W. A. Stowell, of New York. He called attention to the temperature as influenced by birth, arterial or venous currents, and its variation during day or night, and to many physiological facts bearing on the subject. Thought it was not necessary to use thermometer 15 to 20 minutes at a time. Called attention to many simple ailments giving rise to ephemeral temperatures. Cited cases where there was a very marked variation of temperature. Showed that in certain diseases the temperature varied greatly from accepted standards. Denied that the new antipyretics, such as antifebrin and others of that class, had succeeded, with him, in reducing fever satisfactorily. Finds that they are no better than the older aconite and veratrum. Thinks that temperature may be reduced by proper feeding and stimulants.

Dr. Ephraim Cutter agreed with the author in the matter of feeding, as influencing the temperature kindly.

Dr. Wm. Perry Watson does not always treat a rise of temperature, as he does not consider it as always alarming. He gets at and if possible relieves the cause of the fever, and afterward, if necessary, uses antipyretics to help nature along. Recommended, in intelligent families, the use of the sponge, with cold, hot or tepid water. Carbonic acid drinks, which are given in small quantities and frequent intervals.

Dr. Frank Woodbury, of Pennsylvania, differentiates his cases in high temperature, and believes that in cerebral fevers, the cooling cloths to head should extend over eyes, to prevent reflex symptoms. Upheld Graves' theory of feeding fever by proper diet.

Dr. J. A. Work, of Indiana, applied tepid water to head and had it fanned for an hour or two. He had not lost one out of fifty cases of pneumonia, and believed that diet and attention to the eliminative functions was proper treatment, as proved by his success.

Dr. E. F. Brush, of New York: There is much in expression in temperature. Called attention to some experiences in the rapid rise of the mercury in the rectum. When it rose rapidly after insertion he knew his fever was not going to be dangerous; when it rose slowly he always looked out for serious results. Flushes the bowels with marked success.

Dr. B. H. Boyd, of Indiana, believed that the eliminating processes should be encouraged.

In closing, Dr. Stowell did not wish to be understood as using veratrum in excessive doses. Has found calomel useful in beginning of fevers.

Dr. Larrabee, of Kentucky, said he tried to manage rather than to treat fevers; less medicine the better. Hyperpyrexia should be treated, but not simple pyrexia. The cases of high temperature due to neuroses were best treated by warm pack. Advocated rectal injections with cold water coils to head. A temperature of 104° needed treatment.

The Section then adjourned to the Section of Laryngology and Otology, on Broad street, to listen to the paper and discussion on *Croup and Diphtheria.*

Dr. R. Early read a paper in which he took his audience back to the old authors, who evidently had, but did not always recognize diphtheria. Used ipecac. pot. chlor. and sod. chlorate.

Dr. Daly, of Pennsylvania, advocated the calomel treatment.

Dr. Brush, of New York, gave a history of thirty-three cases of intubation, of which but three recovered. His treatment is to feed them and put them flat on the back without pillows. He feeds them with a nurse bottle very satisfactorily. He believed that diphtheria was essentially septic croup. Did not incline to the idea of bad sewerage being a potent factor in causation.

The Section then returned to their rooms, and the Nominating Committee, through its Chairman, Dr. C. E. Early, reported that Dr. William Perry Watson, of New Jersey, was their choice for Chairman, and Dr. W. R. Hare, of Pennsylvania, for that of Secretary.

The Section then adjourned to meet May 23, at 10 A. M.

Medical Jurisprudence.

FIRST DAY.

A paper by Dr. Norman Kerr, of London, delegate of the British Medical Association, entitled *The Need of a New Criminal Jurisprudence Affecting Inebriety*, was read by Dr. Everts, of College Hill, O. The Secretary, Dr. T. D. Crothers, read a paper on *Some New Medico-Legal Questions Relating to Inebriety.*

The following papers were read by title: *Medico-Legal Significance of Facts Common to Insanity and Inebriety*, by T. L. Wright, Bellefontaine, O.; *The Psycopathic Sequences of Hereditary Alcoholic Entailments*, by Charles H. Hughes, St. Louis, Mo.; *The Medico-Legal Relation of the Physician* *to the Inebriate and Inebriety*, by I. N. Quimby, Jersey City, N. J.; after which a general discussion was opened by Dr. Everts. He said the need of a change in the laws relating to the punishment of inebriates was evident. The question of responsibility was a disputed one; still, as medical men, this could be adjusted, and the sense of the community would not be shocked by holding these men responsible. He urged that further legislation was needed, and the profession must aid in this direction.

Dr. Brower, of Chicago, Ill., believed that changes of law must be made in the interests of justice. He related some cases where injustice had followed by failure to realize the actual condition of the inebriate, and expressed a conviction that much of the present confusion in courts would pass away when this subject was better understood.

Dr. Knapp, of Lincoln, Neb., thinks that only punishment would diminish the crime of these cases. He expressed great doubt as to the irresponsibility of persons who commit crime when intoxicated.

Dr. Ingles, of Detroit, believes that the use of alcohol is always followed by brain defects and changes. The question of responsibility is a difficult one, and in most cases the inebriate is not sound.

Dr. Cook, of Oxford, O., is convinced that the inebriate is not always sane, and that great care should be exercised in the question of his mental state at the time of the commission of any act in question.

A general discussion followed, after which a paper was read by Dr. D. R. Brower, of Chicago, on *Medico-Legal Relations of Central Paralysis*. Discussion of this paper was postponed until next day.

SECOND DAY.

The election of officers resulted in Dr. T. D. Crothers, of Hartford, Conn., being elected President, and Dr. H. N. Moyer, of Chicago. Ill., was elected Secretary.

The first paper was read by Dr. William Porter, of Buffalo, N. Y., entitled: *What is the Medico-Legal Status of the Abdominal Surgeon?*

Dr. J. G. Kiernan, of Chicago, Ill., spoke as follows: The only legal question which can be raised, in deciding the questions of responsibility of the abdominal surgeon, is whether he has exerted "due diligence" in the case. But to demonstrate this "due diligence" to a jury requires considerable more than ordinary evidence, since such peculiar influences are brought to bear. By aid of the press a grand jury is induced to indict; it of course hearing one side only. The civil jury is influenced by this finding. If the malpractice blackmailer were required to give bonds it would have a decidedly good effect.

Dr. Moyer said: The question of consent is not the only one involved in these surgical procedures, for if the operation is not in accordance with the generally accepted doctrines upon that subject, a person will come very close to rendering himself liable for a trespass. A case in point occurs to me, in which a man brought suit for the removal of his testicles, the operation being undertaken for some frivolous reason, but with the full consent of the patient. The case was settled out of court by the payment of a round sum by the physician. If for no good reason the uterine appendages are removed, it is a question if the physician would not be liable under the law in most of our States.

Dr. H. McIntyre, of St. Louis, said: The necessity for proper surgical drill before attempting abdominal operations. Make plaintiff responsible by sufficient bond for indemnity for damage done the doctor before suit can be entered. The need of a general change of our laws in justice to the surgeon. Illustrative case where young man wished to be castrated and operation was declined, but circumcision was done with great benefit. Good results in Battey-Tait operations.

The following papers were read consecutively: *Medico Legal Relations of Abdominal Surgery*, by Albert Vanderveer, Albany, N. Y., read by title; *Medico-Legal Bearings of the Battey Operation*, by Robert Battey, Rome, Ga., read by title; *What is the Medico-Legal Status of the Abdominal Surgeon*, by William Porter, Buffalo, N. Y.; *Medico-Legal Aspects of Gunshot Wounds of the Abdomen*, by Nicholas Senn, Milwaukee, Wis., read by title; *The Responsibility in Cases of Intestinal Obstruction*, by B. T. Shimwell, Philadelphia, Pa.; *Some Special Reasons why the Laparotomists should Consider the Medico-Legal Aspects of Abdominal Surgery*, by Henry O. Marcy, Boston, Mass.; *Exploratory Laparotomy from a Medico-Legal Standpoint*, by William C. Wile, Danbury, Conn., read by title; *The Medico-Legal Responsibility in Abdominal Surgery*, by J. D. S. Davis, Birmingham, Ala., read by title; *The Medico-Legal Questions which arise from the Mistakes of Abdominal Tumors for Pregnancy*, by David W. Yandell, Louisville, Ky., read by title; *The Legal Responsibility in Surgery of the Abdomen*, by Thomas H. Manly, New York, N. Y.

These papers were discussed by Dr. Price, of Philadelphia. He believed all these cases should be operated on at the time and place and not left to the future.

Dr. Shimwell, of Philadelphia, differed from Dr. Manly in the safety of the operations of the abdomen. Dr. Marcy also differed, and urged that more care and special training are necessary in these cases. All the operations should be prompt and not put off.

Dr. Manly replied defending his position of advising great caution in the operations of the abdomen.

DOMESTIC CORRESPONDENCE.

To the Professions of Medicine and Pharmacy, and the Medical and Pharmaceutical Colleges of the United States and Canada.

At the last meeting of the *American Association for the Advancement of Science*, held at Toronto, Canada, September, 1889, the undersigned were appointed a committee to promote the use of the metric system of weights and measures among professional men, and especially to secure its more general adoption by the physicians and pharmacists, and the chemical and pharmaceutical manufacturers of our country.

The metric weights and measures were legalized in this country by Congress in 1866, and are now in actual use by most students of natural history, by some scientific periodicals, by the graduates of our schools of civil and mining engineering, and especially by all scientists and chemists throughout the world, without regard to their mother tongue. It is nevertheless greatly to be regretted, that a large majority of our physicians, pharmacists and druggists, still continue to ignore its merits or discountenance its adoption.

The merits of the metric system have been so thoroughly recognized that it is adopted by most civilized nations. Further argument should be unnecessary to secure its universal adoption in our hemisphere, where it is already in exclusive use by all the States of Southern and Central America.

It is a strange and irreconcilable fact, that the Governments of Great Britain and the United States, or the English speaking peoples, should stand quite alone in their stubborn and persistent adherence to the use of heterogenous standards of weights and measures, completely devoid of system in themselves, or of any practical and rational relationship to each other. And it is especially strange, in view of the practical utility of the metric system, that the professions of medicine and pharmacy in this country should in this respect at the present time, be behind the various arts of engineering, as must be conceded by those familiar with the facts.

This condition of things is not due to any inherent defects in the system itself, but to indolence and a want of practical acquaintance with the metric system, which largely amounts to positive ignorance, that is unjustifiable, since it hinders the proper assimilation of the great mass of scientific literature in which the system is exclusively used, tends to increase the risk of errors in our professional work, and imposes much unnecessary labor on the student.

The educated representatives of medicine and pharmacy in this country favor, and would gladly adopt the metric system, but find their efforts in this direction constantly hampered and nullified by the opposition of a large number of both professions who, through conservatism or lack of education, fail to unite in any concerted effort for its more general adoption and use.

It is unnecessary here to expatiate on the advantages of the metric system of weights and measures. The identity of the single factor with our system of numeration, the perfect correspondence between measures of weight and capacity, its approval by a large majority of the nations of the world, and especially its actual use by scientists and chemists without exception, render its ultimate adoption by all arts dependent on natural sciences, and especially by medicine and pharmacy, a matter of necessity and certainty. Its adoption is not to be viewed as an experiment, as would be such modifications of our present forms as have been proposed by some individual enthusiasts, and which have received but little consideration by any but their inventors.

The argument that our system of weights and measures is the same as that in use in Great Britian, with whom we have most intercourse, is without foundation. The system we use is well called the *American system*, for no other nation uses it. The *troy* pound has been abolished in Great Britain, and no longer appears in their text-books, and the fluid measures are different in the proportion of 4 to 5.

If identity is to be preserved between our measures and those of any other nation, some change must be made, and we believe there is substantial unanimity in a preference for the metric system as in place of our old system if any change is made.

It is wholly unnecessary to defer the adoption of this much needed reform until the prejudices, fallacious arguments, or educational deficiencies manifested by a large contingent of pharmacists and physicians shall have been overcome. Such a period must necessarily be remote, and indefinite, while the method herein proposed avoids any delay. The difficulty of securing any change on the part of men already in active business is well shown by the fact, that the simple innovation in the present U. S. Pharmacopœia of expressing quantities in *parts by weight*, demonstrates how large a number of pharmacists are incapable of comprehending so simple a relationship when applied to the complicated empirical and antiquated systems of weights and measures in present use.

One of the principal reasons why the metric system has not yet been adopted in this country by professional men, is the indifference shown by our professional schools. Every student of medicine and pharmacy is practically obliged to learn a system of weights and measures new to him when he begins professional study. He may have learned the apothecary tables in his school days, but he has not used them, and as elements of thought the grain and drachm are entirely new to him. If the gram and cubic centimeter are substituted for them, no additional labor is entailed upon the student. It must not be supposed at the present time, that professors who are rarely competent, are ignorant of this system, and hence this change would not entail any additional labor on the professors. In fact it would diminish the labor, of both professors and students, for in medical schools at the present time, instruction is given in both systems, and it would simply make the methods of instruction uniform in the chairs of materia medica, pharmacy, and chemistry, where now is a confusion.

The pharmacopœia does not now recognize the troy system, and if the doses were taught in metric terms only, the old system would die out with the passing off of the present generation of practitioners. No inconvenience would be caused to any one, those who are to old to learn, could go on using their present mode, and the new graduates would use that which they are taught.

It should be particularly remembered that we are not trying to introduce a new system but to drop an old one, which is as irrational and unscientific as any other relic of barbarism. *It is especially opportune at this time when a new revision of the Pharmacopœia of the United States is pending, that the committee of revision, as well as the pharmacists, druggists, and physicians of this country, should have their attention particularly directed to this important subject.* For the use of these professions, six lines contain all that is necessary, as follows:

1000 milligrams make one gram, or liter.
1000 grams or cubic centimeter make one kilo.
1000 kilos. make one ton.
65 milligrams make one grain.
15½ grains make one gram.
31 grams make one ounce troy.

In writing prescriptions, a vertical line should be drawn between grams and milligrams, all figures on the left read grams, all on the right to three figures, respectively deci-, centi-, and milligrams.

Chemists think in milligrams and grams only, and pharmacists and physicians may do likewise, reducing our system to two denominations only. In the arts the milligram is not divided.

As the metric system is legal throughout the United States any physician is entitled to present a metric prescription to the druggist. All boards of examiners in medicine and pharmacy, whether State or collegiate, are justified by law to exact, and *should demand from every candidate for graduation, or for license a knowledge of the metric system.*

We also earnestly recommend, that schools of medicine cease to give instruction in the apothecary system of weights and measures for which there is no longer any reason, and that in the schools of pharmacy the merits of the metric system should be presented with the prominence that its utility, and the near prospect of its adoption justify, in the best way to secure its immediate use as the exclusive system of weighing and measuring in medicine and pharmacy, and in the manufacturing arts correlative with them. And for the further promotion of this object, we recommend that an addition be made to the pharmacy laws now in force in most of our States, prescribing that all persons receiving a license to sell drugs and dispense medicines shall be required to provide themselves with a set of metric weights.

Prof. Wm. H. Seaman, Washington, D. C.
Dr. Fred. Hoffmann, New York.
Prof. Robt. B. Warder, Washington, D. C.
Committee A. A. A. Sc.
PROF. T. C. MENDENHALL, Pres. A. A. A. Sc.
April 15, 1890.

The Census of Hallucinations.

To the Editor:—May I ask for the publicity of your pages to aid me in procuring coöperation in a scientific investigation for which I am responsible? I refer to the *Census of Hallucinations*, which was begun several years ago by the Society for Psychical Research, and of which the International Congress of Experimental Psychology at Paris, last summer, assumed the future responsibility, naming a committee in each country to carry on the work.

The object of the inquiry is twofold: 1, to get a mass of facts about hallucinations which may serve as a basis for a scientific study of these phenomena; and 2, to ascertain approximately the *proportion of persons* who have had such experiences. Until the average frequency of hallucinations in the community is known, it can never be decided whether the so-called "veridical" hallucinations (visions or other "warnings" of the death, etc., of people at a distance) which are so frequently reported, are accidental coincidences, or something more.

Some 8,000 or more persons in England, France and the United States have already returned answers to the question which heads the census sheet, and which runs as follows:

"*Have you ever, when completely awake, had a vivid impression of seeing or being touched by a living being or inanimate object, or of hearing a voice; which impression, so far as you could discover, was not due to any external physical cause?*"

The "Congress" hopes that at its next meeting, in England in 1892, as many as 50,000 answers may have been collected. It is obvious that for the purely statistical inquiry, *the answer "No" is as important as the answer "Yes."*

I have been appointed to superintend the Census in America, and I most earnestly bespeak the coöperation of any among your readers who may be actively interested in the subject. It is clear that very many volunteer canvassers will be needed to secure success. Each census blank contains instructions to the collector, and places for twenty-five names; and special blanks for the "Yes" cases are furnished in addition. I shall be most happy to furnish these blanks to any one who will be good enough to make application for them to Yours truly, PROFESSOR WM. JAMES.

Harvard University, Cambridge, Mass.

BOOK REVIEWS.

TEXT-BOOK OF MEDICAL CHEMISTRY. For Medical and Pharmaceutical Students and Practitioners. By ELIAS H. BARTLEY, B.S., M.D., Prof. of Chem. and Tox., Lecturer on Diseases of Children in Long Island College Hospital; late Chief Chemist to the Dep't of Health, Brooklyn, etc. Second edition, revised and enlarged. Pp. xi, 423. Philadelphia: P. Blakiston, Son & Co. 1890.

This is a compact and useful volume. Well adapted for use as a text-book for all classes of students. The present edition has been brought up to date, and leaves but little to be desired within the scope outlined by the author; it is, however, a work on descriptive and not analytical chemistry.

A TREATISE ON MATERIA MEDICA, PHARMACOLOGY AND THERAPEUTICS. By JOHN V. SHOEMAKER, A.M., M.D., Prof. of Mat. Med., Phar. and Ther. in the Medico-Chirurgical College of Philadelphia, and member Am. Med. Ass'n, and JOHN AULDE, M.D., Dem. of Clin. Med. and of Physical Diagnosis in the Medico-Chirurgical College of Philadelphia, and member of Am. Med. Ass'n. In two volumes. Vol. I, pp. xii-353. Net price, cloth, $2.50, sheep, $3.25. Philadelphia and London: F. A. Davis. 1889.

This new work presents some decidedly novel features, and in so far as one may judge from an inspection of the first volume, is destined to become a popular treatise. About one-third of volume 1 is devoted to general considerations respecting materia medica, pharmacy, pharmacology and therapeutics. The chapters on pharmacy and pharmacology are much more complete than those usually found in works of this character, and indeed we observe a growing tendency to instruct the profession much more fully on this subject than was formerly the case. In connection with the subject of general therapeutics, a convenient dietary for the sick is given.

The remaining two-thirds of the volume is occupied with a discussion of remedies and remedial agents used in the treatment of disease, but not properly classed with drugs. These are subjects which very properly occupy a place in works on materia medica, but unfortunately they are usually accorded a very narrow limit. In the present work they form a very important part of the whole, and are considered under the following heads: Electro-therapeutics, oxygen, hydro-therapeutics, masso-therapeutics, heat and cold, mineral waters, metallo-therapy, transfusion, hypnotism, earth dressing, Baunscheidtismus (a method of counter-irritation), climatology, light, music, blood-letting, and suspension. Most of these subjects are very fully treated, the chapters on electro-therapeutics and oxygen being particularly valuable.

MISCELLANY.

Official List of Changes in the Stations and Duties of Officers Serving in the Medical Department, U. S. Army, from May 17, 1890, to May 23, 1890.

First Lieut. Leonard Wood, Asst. Surgeon, having completed at Newport the duties assigned him in S. O. 29, April 30, Div. of the Pacific, will return to his station in that Division. Leave of absence for one month is granted First Lieut. Leonard Wood, Asst. Surgeon U. S. A. Pars. 19 and 20, S. O. 115, A. G. O., May 16, 1890.

Major Leonard Y. Loring, now on sick leave of absence until further orders, is relieved from duty in the Dept. of Arizona. Par 14, S. O. 115, A. G. O., May 16, 1890.

By direction of the Secretary of War, the following named officers of the Medical Dept. will proceed to Berlin, Germany, as delegates to the International Medical Congress which is to meet in that city in August next: Lieut.-Col. Charles H. Alden, Surgeon; Major John S. Billings, Surgeon. After the adjournment of the Congress the officers named will return to the United States and rejoin their proper stations.

By direction of the Secretary of War, Major John S. Billings, Surgeon, will while abroad under his orders to attend the International Medical Congress at Berlin, Germany, before returning to the United States, visit, on official business, such points in Great Britain, France, Italy, Germany, Belgium, Holland, and elsewhere, as may be deemed necessary by the Surgeon-General of the Army, and under such special instructions as he may receive from the Surgeon-General. Pars. 11 and 12, S. O. 116, A. G. O., Hdqrs. of the Army, Washington, May 17, 1890.

First Lieut. Theodore F. DeWitt, Asst. Surgeon, is relieved from duty at Willett's Point, New York, and will report in person to the commanding officer, Ft. Ringgold, Tex., for duty at that station, relieving Capt. W. Fitzhugh Carter, Asst. Surgeon. Capt. Carter, upon being thus relieved, will proceed to West Point, N. Y., and report in person to the Superintendent U. S. Military Academy for duty at that station. Par. 2, S. O. 119, A. G. O., May 21, 1890.

Capt. Robert B. Benham, Asst. Surgeon, is relieved from further duty at Madison Bks., New York, and will report in person to the commanding officer, Ft. Wadsworth, New York, for duty at that station, relieving Capt. Charles K. Winne, Surgeon. Capt. Winne, upon being thus relieved, will proceed to Ft. Snelling, Minn., and report in person to the commanding officer thereof, for duty at that post. Par. 2, S. O. 119, A. G. O., May 21, 1890.

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ADDRESSES.

THE RESPONSIBILITY OF DIPSOMANIACS.

Read in the Section on Medical Jurisprudence, at the Forty-first Annual Meeting of the American Medical Association, Nashville, Tenn., May, 1890.

BY THOMAS B. EVANS, M.D.,
OF BALTIMORE, MD.
CHAIRMAN OF SECTION ON MEDICAL JURISPRUDENCE.

In the present period, when the attention of the whole civilized world is being directed to a consideration of the ravages that follow the improper use of alcoholic beverages: when legislators, National, State and municipal in our own country are deliberating upon the enactment of laws for curtailing their use; when Judges of law are departing from old and well recognized decisions as to the responsibility of the victims of its abuse, it is right and proper that from this medical centre, there should go forth some expression of our conclusions, based upon the facts that support and sustain the faith that within us rests.

It is hardly necessary to attempt a portrayal of the consequences that follow the inordinate use of alcohol; it is written in letters of living light all over the history of the world. The almshouse, the penitentiary, the jail, the insane asylum, the desolate fireside—all, in solemn acclaim, and with one accord, attest that of all evils, it is the most potent. Far-reaching in its influence, debasing in its effects, withering in its blight. Beneath its subtle spell truth lies prostrate, honor dethroned, love extinguished, joy dispelled, and crime exalted. It is somewhat singular that long ago the question "of how to chain this great evil," has not been definitely determined. Great evils of far less importance have had around them thrown the restraining influence of the law, and the effect has been a great advance, in lifting up the lowly and bettering the condition of the human race. But King Alcohol has reigned supreme, his realm has not been invaded, his subjects are loyal and true, and so mighty in power, that no opposing force has been able to hold the field against them. In this day of free thought, with brain and mind unfettered, surely there will come some means to stay the progress of this great and burning shame that is now threatening our National life, undermining the foundations of law and order, and stamping upon mankind the curse of its impress. It is a question that appeals to every lover of his race, to every lover of home and fireside; its bloated front may enter your family circle; its bleared eye, distorted and wild, may be seen in the person of a loved son or a doted daughter, and it may be that they are not responsible beings, that heredity placed upon them a seal whose lines were engraved by their progenitors. Although legislation is necessary to restrain men from its abuse, and should be consummated, yet such action is environed with difficulties. As a rule men do not like prohibitory laws, and oppose them often upon principle alone, without regard to the good that may be accomplished. Therefore, the people must be educated up to the standard of a higher law, that will teach them the dangers that beset and are sure to follow the use of alcohol in any form. There is no class of men that can do this with as much force and emphasis, and command the respect and attention of the community as the physician. It is our duty as physicians to teach the public how to subdue an epidemic, but better far, to teach them how to prevent it. Preventive medicine is the brightest gem in the diadem of science, for there is more glory in arresting disease at the fountain-head, than to endeavor to dam the current, swollen by a thousand tributaries. It is our duty as physicians, by concerted action, to hold aloft the banner of science, and with fervent zeal impress upon the mind of the world the fact that alcohol is a poison, a drug, that stamps upon the nerve centres impressions that appear in the brain of the offspring; a pestilential spirit whose bated breath is laden with germs of weird and mystic power, that make their nidus within the brain, grow, expand and multiply, filling its tortuous and winding halls with their progeny, subduing its energies, paralyzing its functions, dethroning reason, and transforming God's best and noblest work into a foaming, raging demon.

It has been demonstrated satisfactorily to every unbiased mind that alcohol has an elective affinity for water, greater than for any of the tissues of the body.[1] Upon the dead tissue it causes contraction and shrinking of its substance by the absorption of water contained therein. That this same process takes place upon the living tissue is shown by dropping alcohol upon the web of the frog's foot, or upon the wing of a bat. The movement of the blood in the vessels soon stops, the corpuscles congregate and contract, the calibre of the vessels diminishes, till at last all movement and vitality ceases in the part and it remains a shrunken, leathery, insensible structure, very liable to slough and disappear. This effect is more or less marked as the fluid is more or less purely alcoholic. That a similar result may take place when more or less concentrated alcohol is introduced into the cavities of the living body, may be reasonably inferred from the well-known fact that thirst follows the use of alcoholic drinks, at the same time that increased urinary discharge occurs, the alcohol displacing a more or less considerable amount of water from the tissues of the body, throwing it into the circulating blood, whence it passes off by the kidneys. It therefore appears that both in the living and dead tissues of the animal body the affinity between water and alcohol is actively manifest. An obvious corrollary would be, then, that the greater amount of water any animal tissue may contain, the more marked will be the action of alcohol upon it. Now, of all the structures of the human body the brain is that which contains the largest per cent. of water, and, therefore, under similar circumstances it will be the organ most markedly affected by alcohol. Dr. Carpenter upon this point says, that this affinity of alcohol and water is such as will occasion the continual presence of alcohol in the blood, even in very minute proportion, to modify the nutrition of the nervous substance more than that of any other tissue; for the alcohol will seek out, as it were, the nervous matter and fasten itself upon it. In a fit of intoxication the commotion set up between the alcohol, circulating in the blood through the vessels of the brain, and the watery portion of the brain substance surrounding these vessels, which water portion constitutes about 80 per cent. of the mass of the brain, it is not difficult to comprehend how a permanent alteration of nerve structure may result from repeated attacks of that character.

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[1] Dr. T. Rogers, New York Medico-Legal Society.

Dr. Maudsley, in his learned work upon "The Physiology and Pathology of the Mind," says the influence of alcohol upon the mental functions furnishes the simplest instance in illustration of the action of a foreign matter introduced into the blood from without. Here, where each phase of an artificially produced insanity is passed through successively in a brief space of time, we have the abstract and brief chronicle of the history of insanity, because the action of the poison upon the nutrition of the nervous centres is quick and transitory; but we have only to spread the poisonous action over years, as the drunkard does, and we get a chronic and enduring insanity.

Nasse says the physical disturbances which result from the abuse of alcohol are numerous. Besides the digestive apparatus and the blood and brain, the blood vessels gradually degenerate, and there is hardly an organ of the body which does not undergo pathological changes in consequence of the impaired general nutrition, and every habitual drinker arrives finally at a state of mental disease founded on tangible changes in the functions of the brain, and characterized by dulness of the senses, the judgment and memory, by weakness of the will and loss of the faculty of self-control. Whether he has arrived at this point by way of a vicious habit or under injurious influences in consequence of an abnormal organization, the result of continued drinking is the same. We have a morally depraved, mentally and physically sick individual on our hands.

Prof. Greismeyer says that every degree of drunkenness represents a grade of real insanity, being a dreamy condition, with many illusions and hallucinations. The habitual drinker exhibits, even when not drunk, many signs of chronic brain trouble, and his condition may gradually merge into insanity. In the brain of the habitual drinker, as in that of many insane, may be found the results of passive stasis, of chronically formed opacities and thickening of the membranes. The habit of drinking is so strong, and the representatives against it in the drinker so feeble, and his will to abstain so weakened, that though fully conscious of becoming dishonored and despicable, though his health is failing and his domestic happiness going to ruin, yet every day anew he will break his good resolutions.

Dr. Taylor says that pathological investigation shows the brain is changed from a healthy to a diseased state by the action of alcohol. Healthy thoughts and healthy moral sentiments are not evolved by a diseased brain. To its possessor we attach no moral responsibility. An inebriate has a diseased brain; no will or agency of his own can bring forth therefrom other than diseased mental and moral products. A person who is governed by an uncontrollable appetite, or by an uncontrollable influence, is not a responsible being.

Dr. Hutchinson states that a confirmed inebriate is an insane man, dangerous to himself and others, and however responsible he may have been for bringing the disease on himself, his responsibility ceases as soon as he comes under its influence.

Numerous authorities might be quoted other than those mentioned, all showing the drift of medical conclusions as to the effect of alcohol upon the brain and the responsibility of dipsomaniacs. I do not know that there is any fact in medicine so clearly shown by reason, observation and experience: that the dipsomaniac is an irresponsible being, a diseased, stricken individual with a crooked brain, in which reason and self-control have no abiding place. For him there is no sunshine; the silver sea of dawn and evening's cloud of molten gold, the solemn splendors of the night, and all the voices of the sea, wake not his soul to gladness. There is but one thought, one desire, that wanders through his brain, born of an insatiable, uncontrollable thirst for alcohol, and for it he sacrifices all that is dear to the human heart, the ties of love, the prattle of children, the sacredness of home, priceless honor. To say that one is insane is enough to command the sympathy and commiseration of every true man, and when insanity has been diagnosed beyond a doubt the law does not hold the individual responsible for any of his acts. Therefore, if it is fairly proven that dipsomania is a disease of the brain, that it is a form of insanity, and that the dipsomaniac is an insane person, why should he be held responsible for his acts and deeds, while the insane from other causes are held to be irresponsible? The effect is the same, although the causation may be different, and there is no justice in differentiating their relationship to responsibility and irresponsibility. Insanity is insanity, no matter what the cause.

As early as the time of Chief Justice Coke, it was formulated that for criminal acts done in the condition of drunkenness, the person was doubly guilty, for inebriety always aggravated the offence, and that the penalty should be increased rather than diminished. This view has been accepted by legal minds, as being just, and eminently conservative of social and proprietary rights. A recent judicial charge might be quoted to show that there has been very little improvement upon the legal dictum of Chief Justice Coke, in regard to the plea of irresponsibility. Our efficient and well qualified secretary, Dr. Crothers, testified in the case with his usual clearness and perspicuity, that the prisoner was insane, and not responsible. The Judge said: "No insanity or irresponsibility can be predicated in any given case, unless the mind showed a continuance of delirium or delusion. And that in no case should this be taken into account or mitigation of guilt, if it resulted from alcoholic intoxication." This decision is based on the old English law, that intoxication is never an excuse for crime, and that no man can plead that he should be exempt from the law by reason of not knowing or not being able to control the extent and force of his acts, by reason of being drunk, and that drunkenness is a voluntary insanity, and those who use alcohol to that degree know full well the consequences of that act. A decision of that character is unjust. It belongs to the dark ages. It is born of ignorance, and is opposed to the principles of pathology and common sense. The fact is patent, that judges are generally ignorant of the physical laws that govern and control insanity; seeing that by long experience and devoted study only, is a profound knowledge to be acquired, it is not to be wondered that they so often fail to administer the law justly. But not only are judges incompetent in many instances; the average juror is still more. How is it possible for twelve men drawn from the masses to be equipped, and qualified to decide the delicate and complicated question of a prisoner's mental condition. Again, the medical profession, unless they have had special training, are likewise incompetent. There may be some cases of insanity so well marked, that it would be comparatively an easy matter to decide the question. But the majority of cases require the specialist, who has made a study of insanity in all its varied forms. He must be a physician and something more.

A great deal of the confusion that prevails in the profession, is owing to the fact, that every man thinks he knows as much about insanity as he knows about common continued fever. The grave and complicated questions, that enter into the consideration of each and every case, the predisposing and exciting causes, its occasional sudden accession, its intermissions and remissions, its varied phases of depression, excitement, or violence, its premonitory symptoms, its different symptoms, and probable termination; can only be determined by the trained medical mind. It is not a question for judge or juror to decide, without the aid of competent, scientific, unbiased evidence. There is a radical reform necessary of the law, in regard to medical jurisprudence. It is high time, that some advance should be made in that direction, and that we had closed the musty tomes of the past filled with judicial errors, acts of grevious injustice, and opened a better volume; a warmer, brighter record of law, wherein humanity can find a plea, science a place of honor, and dipsomania justice. Already some judicial minds are moving in that direction, the dawn of a new era is begining to rise; and all the horizon around is invested with bright rays. In England and elsewhere some eminent jurists have decided "that a man may be convicted of an offence committed in drink, and yet be absolved from responsibility." For example, as reported in *The Lancet*, Baron Pollock has held that a plea of irresponsibility was tenable in a case where a homicide was committed by a person after taking a small quantity of alcoholic liquor, a quantity not sufficient ordinarily to disturb the reasoning faculties, but which, in the case in question, was sufficient to set in motion an insane predisposition that became the prime agent in the manslaughter. Another eminent judge in England has recently ruled, in regard to the case of a drunken mother, who, through the neglect of her babe, occasioned its death by starvation; the withholding of nourishment by the mother was not a crime for the reason that it was undesigned, and that it is not a declared crime to imbibe too much liquor.

Chief Baron Pallos has recently ruled, that neither law or common sense can hold a man responsible for the acts done under the influence of an intoxicant, if by reason of long vigil, deprivation of sleep or impoverishment of the blood, he shall have become so reduced as to be made drunken with a smaller quantity of liquor than would have produced that effect upon him in good health. Justice Day has gone still further, and has delared "that a person who does not know the nature and quality of the acts he commits, is not responsible for them whatever may be the cause of his unconsciousness. These decisions have about them the true ring, and is a complete reversal of the decisions, that have ruled the courts of the world for three centuries. They are in harmony with the teachings of science, in accordance with all authorities upon insanity, and apace with the advance and general improvement made in all branches of medical knowledge since the day of Lord Coke.

It becomes the duty of every physician to promulgate the facts as laid down by these eminent jurists; and to support and sustain the principles involved therein upon all occasions. There must be no conflict in the future, as there has been in the past, between law and medicine. We must always insist that dipsomania is a physical corporeal disease in common with all forms of insanity, and must be diagnosed by competent medical authority. The right interpretation of its symptoms belonging alone to the realm of medicine. Then alone will justice beam with all the brightness and purity of unsullied truth; humanity glow with the splendor of righted wrongs, and the Genius of Medicine, unshackled and free, side by side will stand with the Genius of Law, clothed with all the majesty of might and power, to elicit truth, to administer justice, to those bereft of reason, by that demon Alcohol.

GENERAL MEDICATION IN THE TREATMENT OF SKIN DISEASES.—DR. A. H. OHMANN-DUMESNIL, in the St. Louis *Clinique*, January, 1890, says that general medication is frequently of more importance in the treatment of skin diseases than local measures, and he cites an example of a strumous child of 8 years suffering from eczema and tinea tarsi who was cured by the internal administration of cod liver oil. We cannot let this opportunity pass without expressing our gratification at thus seeing a specialist for the skin advocating general treatment. With the exception of parasitic diseases, there are no diseases of the skin in which local treatment is absolutely necessary, while even in many parasitic diseases constitutional treatment is very beneficial.—*Canada Medical Record.*

ORIGINAL ARTICLES.

A NEW MOUTH GAG. TOGETHER WITH THE CONSIDERATION OF OTHER POSSIBLE AIDS TO BETTER RESULTS FROM INTUBATION OF THE LARYNX.

Read in the Section of Laryngology and Otology, at the Fortieth Annual Meeting of the American Medical Association, June, 1889

BY CHARLES DENISON, A.M., M.D.,
OF DENVER, COL.

Your indulgence is needed for the crudeness of this paper and the immature thoughts I have to offer, for one of the instruments I have to present was only finished the day I left Denver on my way here, and the description and argument have necessarily found expression since that time.

However, if a strong belief, backed by a peculiar and varied experience, that intubation of the larynx is a better operation than results up to now have proved it to be; in other words, that the ratio of recoveries by that operation is susceptible of much improvement—if this is any excuse for my burdening you, then I shall not despair of your concurring approbation or your opposing criticism. If you feel as I do about it, you will welcome any agitation of this subject that will give promise of some realization of the above expressed belief.

For purposes of reference and comparison I herewith append a table of all the intubation cases I have had up to the first of this month, namely: twenty-five, in which there were seven recoveries, counting as a recovery one case which died of paralysis or failure of the heart five days after the tube had done its full work and has been removed.

Of course I desire some allowance to be made for the exceedingly unfavorable character of these cases, just as every operator does who is called in to perform intubation as a *dernier ressort* after the attending physician has vomited, blistered, and "given up" the little patient. A previously existing pneumonia, so that a whole lung is solidified, as was the case with two of the list, is also calculated to impress the operator with the belief that he could have a better record if he would refuse to intubate some cases, which I have in no case done.

It is further to be remarked, as will be more apparent further on, that the atmospheric conditions under which these operations were performed, together with a marked tendency to catarrhal broncho-pneumonia in cold weather at and above 5,000 feet elevation, must have an important bearing upon these records.

A PROPER GAG.

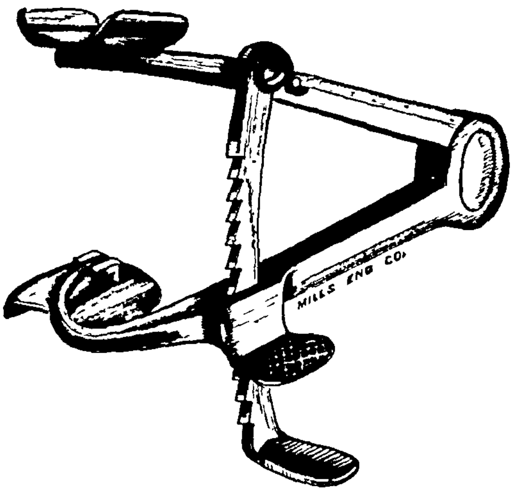
My experience with the gag accompanying the first sets sold of O'Dwyer's tubes, convinced me that a better means of getting and holding open the patient's jaws must be devised. The long handles being hit by the child's shoulder or some other part, thus disengaging the instrument, together with a bitten and poisoned index finger, settled the question for me, and I devised a simple two-armed gag separated by a ratchet controlled by the thumb and forefinger, which has served very well in many subsequent intubations. The troughs or supports for the jaws or teeth

TABLE OF CASES OF INTUBATION.

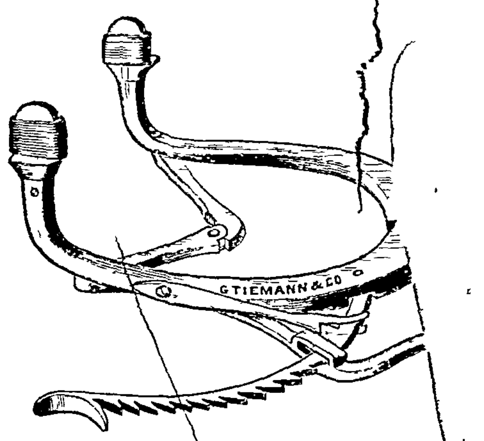
No.	Date.	Initials of parents or of patients.	Whose patient previously.	Age and Sex.	Duration before Intubation.		Cause of Death.	Complications and Character of Disease.	Result and Remarks.
					Croup, Laryngeal.	Diphtheria, Pharyngeal.			
1	1887. Feb. 1.	J. H. T.	C. Denison	6 yrs. M.	1 day.	None	. . . .	Preceded by measles, followed by broncho-pneumonia. Membranous croup.	Recovery. Tube expelled with casts.
2	Mar. 28	H. A. S.	Dr. J. B. Corey	14 mos. M.	7 days.	"	. . . .	Measles while tube was in. Membranous croup.	Recovery. Tube taken out 3d day and immediately returned, worn 9 days and 20 hrs.
3	Mar. 30	N. A. B.	Dr. P. V. Carlin.	4 yrs. F.	4 "	1 day	Septic state and extension to bronchi.	Diphtheria	Died 16 hours after intubation.
4	Oct. 1.	E. J. D.	Dr. S. A. Fisk.	2 yrs. M.	2 "	1 day	Membrane loosened and stopped up the tube.	Diphtheria	Died. Tube in 4 hours.
5	Nov. 19	J. B. N.	Dr. Walker.	6½ yrs. M.	3 "	?	Extension to bronchi.	Membran. croup. Tough membrane.	Died. 1 A.M. and 3 P.M. same day casts expelled, loosened by tube; membr. re-formed and extended to bronchi; died 36 hrs. after intubat'n.
6	Nov. 30	J. K. M.	Dr. Morris	3½ yrs. F.	3 "	1 day	Broncho-pneumonia and extension.	Diphtheria, broncho-pneumonia.	Died 10 hrs. after intubation.
7	Dec. 14.	G. F. B.	Dr. Carlin.	2 yrs. F.	3 "	None	Pneumonia	Membranous croup, pneumonia, 1 lung solidified.	Died 20 hrs. after intubation.
8	Dec. 30.	J. Q.	Dr. Carlin.	4 yrs. F.	2 "	1 day	Extension to bronchi.	Catarrhal pneumonia, diphtheria.	Died 44 hrs. after intubation. Intubated twice.
9	Jan. 9.	P. L.	C. Denison	18 mos. M.	2½ "	?	Broncho-pneumonia and extension to bronchi.	Membranous croup?	Died 30 hrs. after intubation. Intubated three times; tube coughed up.
10	Jan. 25.	H. M. H.	Dr. F.	5 yrs. F.	8 "	7 days.	Strangulation.	Diphtheria. Failed to notify the doctor for second intubation	Died. Wore tube 30 hours; died 36 hours after intubation.
11	Feb. 23.	L. C.	Dr. Crane.	3 yrs. 1 m. F.	5 "	. . . .	Extension to bronchi.	Diphtheria? Dulness and moist râles. Broncho-pneumonia.	Died 40 hrs. after intubation.
12	Feb. 25.	I. McG.	Dr. Edson.	3 ys. 10 m. F.	2 "	2 days.	Extension downwards & catarrhal pneumonia.	Diphtheria	Died 20 hrs. after intubation.
13	May 12	R. H. A	Dr. Clough	4 yrs. 4 mos; very small for age. M.	4 "	. . . .	On arrival child was strangulated.	Membranous croup. Catarrhal or "aspiration" pneumonia.	Died 12 hrs. after intubation. Intubated child lying down and apparently dead.
14	Apr. 30.	M. R, Minneapolis.	Drs. Morris and Nevins.	6 yrs. 7 m. F.	6 "	2½ days.	. . . .	Membranous croup.	Recov'd; tube in 4½ days, coughed up with the softened membrane.
15	Oct. 26.	A. D. C.	Clark and Morris.	6 yrs. M.	4 "	2 days.	. . . .	Diphtheria	Recovered tube in 5 days.
16	Nov. 20	A. D.	Dr. Lattimer	5 yrs. F.	3 "	1 day	Broncho-pneumonia, exhaustion and extension to bronchi.	Diphtheria and catarrhal pneumonia.	Died 12 hrs. after extraction of tube. Tube in 3½ days.
17	Dec. 1.	J. McH	Dr. Carlin.	4 yrs. M.	3 "	?	Catarrhal pneumonia.	Membranous croup?	Purulent expectoration thro' tube; tube removed and at once returned; membrane below tube; death 24 hours after intubation.
18	Dec. 13.	R. H.	C. Dennison.	8 yrs. F.	10 hours.	10 days	Heart failure five days after removal of tube.	Diphtheria; 3 crops of membrane on pharynx.	Died. Success as to the membrane extracted with tube.
19	Dec. 28.	Mrs. J. W	Dr. Wilson	28 yrs. F.	½ hour	1½ days.	Sepsis and exhaustion five days after confinement. Her two children had diphtheria at the time.	Diphtheria	Tube in 25 minutes and then coughed up with cast following; died 32 hrs. afterward.
20	Dec. 26.	L. M.	Dr. L. E. Lemen	27 mos. M.	2 hours	?	. . . .	Membranous croup.	Recov'd. Tube removed Dec. 28 and 30 and Jan. 1, and returned immediately; tube worn 8 days 7 hours.
21	1889. Jan. 9.	F. R. W.	Dr. Davis	13½ mos. F.	3 "	7 days.	Diphtheritic bronchitis.	. . . .	Died 30 hrs. after intubation.
22	Jan. 11.	J. J. McD.	Dr. Davis	17 mos. M.	4 "	No membrane seen.	. . . .	Had measles with tube in. Diphtheria.	Recovered. Membrane came up with tube; intubated twice afterward; tube worn 7 days and 10 hours.
23	Jan. 16.	B. F. A.	Dr. H.	3 ys. 10 m. F.	3 "	. . . .	Purulent bronchitis.	Broncho-pneumonia	Died 68 hrs. after intubation; tube worn all the time; taken out once for cleansing.
24	Mar. 24	M. W. D.	Dr. Kimball.	3 yrs. 6 m. M.	24 "	3 days.	Extension of membrane to bronchi.	Diphtheria; several crops.	Tube removed twice in 2 and 3 days; died with tube in 4 days and 1 hour.
25	Mar. 30	P. M.	Dr. Blickensderfer	3 yrs. 3 m. F.	36 "	7 days.	Septic and catarrhal bronchitis.	Suppressed scarlet fever.	Tube in 29 hours; died 12th day from first attack suppressed scar. fever.

Under four years of age, 13, with three recoveries; four years or over, 12 cases and four recoveries. Average time tube worn in successful cases, 4½ days.

were made slightly swivel, so as to fit the angle of the jaws of any aged child—a new device of my own so far as I am aware. The requirements

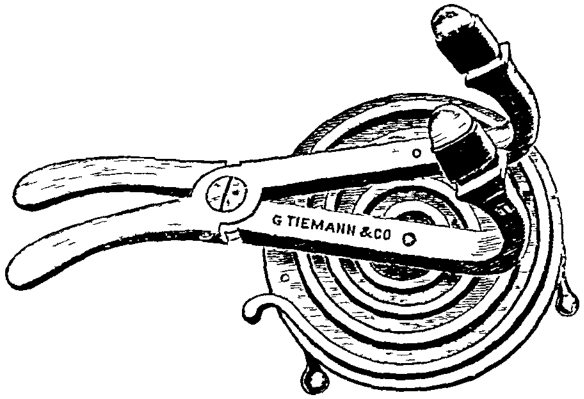


of a perfect mouth-distender seem to me to be, 1, that it should be possible for the assistant to hold it in place without any fear of its being disengaged during the operation; 2, that it should fit any aged child and not injure the gums of toothless children; and 3, that it should be strong enough and easily managed though the patient resist. This is no easy task to accomplish, for the strength of a five or six year old boy's jaws is something not to be sneered at. The new instrument here presented, lately made for me by Tiemann & Co., would answer all requirements
t gave a little more power to distend the op-
ing jaws. It has or gives a wide sweep of a
works on a toggle joint and thus dis-
the arms upon the ends of which are the swivel jaw troughs. These troughs should be bent back at less than a right angle to the side arms so they will point inwards and backwards, and thus engage the jaws not quite as far forwards as the incisor teeth.



The third and last invention here p
likely to be the best gag, because it a
the requirements of a perfect instru
it the jaws of the most rebellious youth

worried open and held so by the aid of a competent assistant who can hold still the patient's head. The power by which the jaws are distended by this instrument depends upon the sliding of a pivot attached to one arm in three elliptic grooves made on a circular plate, the centre of which is pivoted to the other arm of the gag. The wedge-shaped teeth troughs first, I believe, recommended by Dr. , of New York, are used on this instrument to favor an entrance between the closed teeth. The gag is to be held by the assistant firmly against the left cheek of the patient when in use.



THE PREVENTION OF "ASPIRATION" PNEUMONIA.

This "aspiration pneumonia," as Dr. O'Dwyer calls it, in correspondence I have had with him, is to my mind, a very important consideration. I would call it an *œdema* of the air cells, though undoubtedly the records of deaths from broncho-pneumonia, catarrhal pneumonia, catarrhal bronchitis and "extension to bronchi" often refer to a similar cause.

In my fourteenth (see table) I made what
I believe was a v discovery, which
was decidly confi other case of recov-
ery—the twenty e table.
This little gir 888, was taken
membranous cr her way fror
fornia to her l eapolis. T
was worn four coughed
the softened m is was a
and no one co gency of
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(aside from the tactile sense) of determining the commencing rarefaction of the air in the lungs, I believe we would possess a guide to much better success from intubation. You will, I think, acknowledge that we are to expect a greater liability to this aspiration pneumonia with the air pressure at 12 lbs. to the square inch (as in Denver) than as you have it at sea level. If the difference in air pressure noted as existing in the lungs during inspiration and expiration amounts to anything, it means that the necessity of supplying oxygen to the blood must be accompanied by an increase of such difference in rarefied atmospheres. That there is such difference there is not only no doubt in my own mind, but it is in perfect accord with the fearful mortality after intubation, through this so-called aspiration pneumonia. All of which points to the danger of delay in operating for membranous croup or any laryngeal stenosis. Let us try to learn something from the record of deaths after intubation. In my own list of eighteen cases of death fourteen were evidently complicated with pneumonia and bronchitis, either diphtheritic or catarrhal, which in several instances seemed to develop about a day after the first operation. For instance, excluding cases where the cause of death was otherwise apparent, or the extension of diphtheritic or croupous membrane was known to have occurred down in the bronchi, and we have nine cases in which death occurred on an average of twenty-six hours after intubation. What was it that occurred in these cases? As I have before intimated, the higher the altitude and the more serious the strangulation (and none could be worse than some of those nine), the more apt are we to get these subsequent lung complications. For instance in case 13 of my list, as I was commencing to operate the child gasped and was evidently dead. I therefore asked Dr. Clough to put him back on the bed. Then I thought I would intubate any way, which I did, as the child was on his back, without using any gag, for the child's jaws were perfectly limp. Then by using artificial respiration the boy was brought back to consciousness in half an hour, so that he sat up and drank a glass of warm milk. Yet, as I predicted at the time, he was a dead child in twelve hours. The subsequent filling up of the lungs was undoubtedly due to the aspiration which had occurred at the time of the strangulation mentioned. One of Dr. A. Caillé's cases must have been very similar. He says, "I believe that I would be able to report at least one more recovery if intubation had been done earlier in one case, for breathing had actually ceased and artificial respiration had to be practiced."[1] In my own list I have seen no case recover which even approximated the above condition in seriousness, unless it was the first. But this was in a splendidly developed boy 6 years old, and age seems to make considerable difference with reference to the liability to this accident of aspiration or œdema in the lung periphery.

Now taking the published records of other operators, such of them as happen to be on hand, and we have evidence enough that there is a very considerable mortality after intubation which is not satisfactorily explained, except upon some such supposition as is here advanced.

Dr. Dillon Brown's record of his first 200 cases gives 54 recoveries, and in 88 out of the 146 fatal cases there was either extension to bronchi or pneumonia.[2]

Dr. J. Mount Bleyer's list of 206 cases gives 67 recoveries, and in 106 of the 139 fatal cases there was either broncho-pneumonia, pneumonia, bronchitis, or extension to bronchi.[3]

Dr. W. P. Northrup, in his "Pathological Anatomy of the Respiratory Tract After Death from Laryngeal Diphtheria and Intubation," found that of 87 post mortems made, "in 54 cases there was pneumonia, the diagnosis of which was made either from obvious signs of consolidation, or, when this was not well developed, from the microscopic findings."

In a list of cases presented to the New York Academy of Medicine, June 2, 1887, by Dr. Dillon Brown, made up from the records of many operators, including Dr. Joseph O'Dwyer's, his own, Dr. Huber's, Dr. Waxham's, Dr. Northrup's and others, the causes of death in 339 cases were analyzed. Of these, 212 were put down as diphtheritic bronchitis, pneumonia, pulmonary œdema and bronchitis.

Now here are samples of records which show that from 60 to 70 per cent. of deaths after intubation resulted from these lung complications. The questions naturally arise, what proportion of these complications are due to aspiration, directly or indirectly? and are there other unexplained conditions which contribute to this mortality? As for my own belief I cannot accept *as conclusive* the simple dictum that a diphtheritic membrane had extended into the bronchi in anywhere near the proportion of cases so stated. It is natural, perhaps, for operators to put the worst construction on those cases which were fatal. An exact description of the lung condition is not stated, and the damage which had occurred before they had intubated is of course not eliminated.

Turn the subject over as we will, we are compelled to return to a remarkable death-rate in a throat disease due to secondary lung complications, which have not yet been clearly explained. Let us admit, for the sake of argument, what seems entirely reasonable, namely, that the danger in an intubated case of diphtheritic laryngitis is equivalent to that of three separate serious conditions, *i. e.*: First, the diphtheria, or septic state; second, the danger of, or actual existence of, aspiration pneumonia, an assumption which is warranted from the simple fact or reason of an intubation performed; third, the presence of the tube in the larynx, exclusive of the strangulation it has averted. The shock to the patient, injury to parts, or prevention of respiration in operating, enter as aggravators of all these dangers under varying conditions, but especially the last.

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[1] Contribution to the discussion on Intubation of the Larynx.

[2] "Intubation of the Larynx in Diphtheritic Croup," reprint New York Medical Journal, March 9, 1889.
As to ratios and character of cases my own list tallies very closely with Dr. Brown's interesting analyses of his own cases.

[3] Journal of the Respiratory Organs for April, 1889.

Considering these three dangers separately, the ratio of deaths due to lung complications is way out of all reasonable proportions due to such a septic state. I am aware that Dr. Dillon Brown, in his paper read before the New York Academy of Medicine, "Dangers and Accidents of Intubation," says "that the cause of death when due to pulmonary complications is, in the vast majority of cases, not pneumonia, but an extension of the disease to the bronchi—a diphtheritic bronchitis." Mark, however, that he does not recognize any other cause existing for pneumonia or pulmonary œdema in the excuse given for his conclusion, which is at least an insufficient basis upon which to establish the presence of "a diphtheritic bronchitis." He continues: "Pneumonia is not a common complication of diphtheria when the larynx is not involved, although the same condition exists; the inspired air is septic." The comparative freedom from lung complications in cases where there has been no dyspnœa settles this question, and we must look further for the great amount of lung and bronchial disease.

2. To my mind the second danger—this question of aspiration—more than any other explains the situation. The delicate air cells, with their extended area taken as a whole, furnish a tractive force upon the pulmonary circulation. When this laryngeal obstruction commences, that overdistends and perhaps paralyzes the walls of the capillaries which surround them. This œdema may then go on to a pulmonary engorgement or congestion, on the one hand, or through transfusion of the liquor sanguinis into a catarrhal bronchitis, on the other hand; or a combination of the two in a broncho-pneumonia might naturally result. This crude explanation of what I would style the major process is advanced for what it is worth, but it is certainly more satisfactory to me than the assumption of the extension downwards of a diphtheritic membrane, which, however, in a small proportion of cases evidently does occur.

The third danger named—the tube in the larynx—is a difficult problem to solve, and it is not to be lightly considered until we can fairly eliminate the results of substituting an inflexible metal tube for the delicately organized human larynx. I am aware that Dr. O'Dwyer says: "Intubation in chronic stenosis of the larynx in the adult is not followed by any inflammatory changes in the lungs." Yet the dangers to be feared must be noted as pertaining particularly to childhood, and that, too, in inverse ratio to the age. Besides, the same author states as an etiological fact: "*The presence of the tube*, whether it be in the larynx or in the trachea, not because it may admit a little of the milk or other fluids swallowed, but because it prevents closure of the glottis, and consequently prevents that compression of the air which is essential in order to give full expulsive power to the cough. The irritating secretions, therefore, instead of being promptly expectorated, accumulate and are aspirated into the air cells, where they sooner or later excite inflammatory changes."[4] This is both lucid and, coming from the source it does, authoritative.

It seems to me that the lack of any restraint to the outward expulsion of air in the act of coughing might result in such an exhaustion of the air in the lungs, that when the quick rallying due to expansion followed, a suction on the interior alveolar walls might result, threatening or causing atelectasis. In harmony with this idea it has occurred to me best to control the cough by anodynes, and the result thus far, excluding the increased liability of clogging up the tube, has always been salutary.

The only further possible influence to mention is to put a question which suggested itself to me while reading Dr. F. H. Hooper's article on "The Respiratory Function of the Human Larynx."[5] Is it possible to let too much air into the delicate lungs of a child? or does this practical abolition of the larynx unduly disturb or destroy the mechanism of respiration?

It may be claimed, especially by my friend Ingals,[6] that a considerable proportion of pneumonic complications arise from fluids entering the tube in feeding. I do not wish to underrate this possibility; at the same time I have to remember that five successful cases in my own list lived almost wholly on fluids, and averaged seven days each with the tube in. I also note that in the 206 cases of Dr. Bleyer, with the excellent result of 33 per cent. recoveries, "feeding is done in the recumbent position through a nursing bottle." It further occurs to me to suggest that perhaps the excellent method of treatment practiced by Dr. Ingals—the hydragogue effect of the calomel, together with the total restriction of fluids, except ice—may account for the absence of bronchial catarrh in his later cases, more than the freedom from fluids entering the tube.[7]

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[4] "Feeding After Intubation of the Larynx," by Jos. O'Dwyer, M.D. Read June 2, 1887, before the New York Academy of Medicine.

[5] New York Medical Journal, July 4, 1885.

[6] "Intubation of the Larynx," New York Medical Journal, July 2 and 9, 1887.

[7] Before intubation has been necessary in cases of threatened croup I have hit upon the idea of promoting secretion in the pharyngeal and neighboring glands, besides keeping the parts con-

It is unnecessary for me to attempt to show that better results would follow the definite solution of the problems here propounded. If aspiration, as I believe, is accountable for a large proportion of these pulmonary complications, then not only is a much earlier intubation necessary, but further counteractive measures may perhaps prove of great benefit, such as, for instance, compelling the patient, after intubation, to inhale compressed and breathe out into rarefied air, which would be the opposite of the cause of his danger.

However, my paper has already been too long extended, and I close by expressing the hope that I have presented, though ever so poorly, something that will stimulate some of you to clear up this very difficult problem and make this lately introduced but wonderful operation of intubation of the larynx a still greater boon to the afflicted.

Dr. E. Fletcher Ingals, of Chicago, was interested in the inventions of the author of the paper. He had been bitten because of the use of an imperfect gag, and, therefore, was peculiarly interested in any instrument that would prevent such an accident. He had for two years used Goodwillie's gag, but recently had used a very simple and effective instrument devised by Dr. Henrotin, of Chicago. The gag, which he showed to the Section, would be found to enable the operator to dispense with one assistant, and could not be displaced by the patient. He had used it frequently in operations in the naso-pharynx and liked it very much, because of the ease of insertion and the certainty that it could be easily retained by an assistant. He had never seen, and never expected to see, a patient, excepting one affected by lock-jaw, in which there was any difficulty in opening the mouth if a thin, flat tongue depressor or a spoon handle was slipped behind the edge of the upper teeth and worked gently but steadily back along the roof of the mouth until the patient gags. He stated that pneumonia from aspiration of food was commonly feared, but there seemed to be no post mortem evidence that it ever occurred. He formerly withheld fluid from little patients wearing the laryngeal tube, and, he believed, with benefit to the disease, though the treatment was not popular on account of the piteous pleading of the child for water during the first forty-eight hours. Since the adoption of the method of giving fluids with the mouth lower than the trachea he had given fluids as much as desired by the patient, without fear of its passing into the trachea. It was not necessary to place the child's head 45° below the horizontal line, but merely to have the head below the trachea. Sometimes the child swallowed best when on its face, sometimes when on its back or side. A common way was to allow the patient, when taking fluid, to lie on the nurse's lap, with the head hanging backward.

Note.—The publication of the foregoing paper and discussion has been delayed owing to the loss of one of the wood cuts.—Ed.

REPORT ON THE METEOROLOGICAL CONDITIONS AND THEIR RELATIONS TO THE EPIDEMIC INFLUENZA, AND SOME OTHER DISEASES IN CHICAGO DURING THE SIX MONTHS ENDING MARCH 31, 1890.

Read in the Section of State Medicine of the American Medical Association, May 20, 1890.

BY N. S. DAVIS, M.D., LL.D.,
OF CHICAGO.

Early in the last quarter of the year 1889, epidemic influenza or la grippe was reported as prevailing in Russia or northern Europe, and before the end of the quarter it was prevailing to some extent in almost every country in Europe, and in many parts of our own country. This shows a rapidity of diffusion equaled perhaps only by the epidemic of 1847, which is represented to have invaded the whole of Europe within the period of six weeks. On the other hand, the epidemic of 1831–3 was six months in reaching the same degree of diffusion. The first cases of the recent epidemic recognized in Chicago appeared during the last week of December, 1889, when one death from the disease was reported to the health office. During the following month, January, 1890, the number of fatal cases reported was sixty-four; in February, thirty-seven; and in March, seven. The disease thus reached its climax during the first three weeks of its prevalence, and had really ceased in six weeks more. The coincident prevalence and fatality of acute diseases of the respiratory organs, typhoid fever, and of the mucous membranes of the digestive organs, will be seen by the following comparison of the deaths in Chicago during the six months ending March 31, 1890, with those of the six months ending March 31, 1889. To make the comparison fair I have not included the death returns from the ten new wards annexed to the city since March 31, 1889.

The following table shows the number of deaths in the old twenty-four wards of the city of Chicago from the several diseases named during the six months ending March 31, 1889, and 1890 respectively: .

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stantly cleansed from deposit, by allowing the affected youngsters to practice the unseemly, but to them agreeable occupation of chewing gum. *In two cases this seemed to be an effectual preventive*, in one of which half a cup of fibrin, mucus and saliva, which had been washed over into the stomach, was vomited. Maybe we may yet combine our germicides with this congenial and simple occupation for children, and thus in a measure prevent the diphtheritic deposit. I mention it as a new field for experimentation.

	1888.			1889.			
	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Total.
Bronchitis	43	32	95	115	90	84	459
Pneumonia. . . .	69	62	114	128	111	145	629
Influenza.	.	.	.	.	.	.	.
Typhoid fever. . .	46	40	43	30	21	15	195
Cholera infantum.	20	10	3	2	1	2	38
Diarrhœa.	10	3	1	3	2	5	24
Dysentery.	17	6	1	.	.	1	25—1,370

	1889.			1890.			
Bronchitis	47	49	84	186	118	130	614
Pneumonia. . .	74	86	134	414	236	226	1170
Influenza.	.	.	1	64	37	7	109
Typhoid fever. . .	55	55	28	42	109	82	371
Cholera infantum.	35	11	5	13	18	3	85
Diarrhœa.	10	10	4	11	15	12	62
Dysentery.	21	12	11	18	27	10	99—2510

In examining the details in these tables, it will be seen that the appearance of the epidemic influenza in the latter part of December, 1889, was accompanied and preceded by a moderate increase in the number of deaths from pneumonia, cholera morbus of infants, diarrhœa and dysentery, while its progress through January, February and March, 1890, was accompanied by so rapid an increase in the prevalence of those diseases and in typhoid fever, as to more than double their mortality as compared with that of the corresponding months of the preceding year. Indeed, during the month of January, 1890, when the influenza was at its climax, the deaths from pneumonia were more than three times as numerous as during the same month of 1889, and the intestinal affections were more than six times as numerous. The figures show a marked increase in the number of deaths from bronchitis, though in much less ratio than from pneumonia, while the ratio of deaths from typhoid fever was only moderately increased during the climax of the influenza epidemic, but was greatly increased during the decline through February and March. In fact the cause or causes giving rise to the epidemic influenza appeared to so influence the human system as to lessen its resistance to the action of morbific causes generally, and hence there was an increase in the prevalence and fatality in nearly all forms of acute disease whether general or local. The cases diagnosticated as influenza by the profession presented a great variety of symptoms. The only symptoms that could be regarded as uniformly present in any stage of the disease, were rigors followed by some fever; severe pains in the head, back and limbs; and decided sense of weakness at the commencement of the attacks; and even these varied much in their intensity in different cases. In not more than one-third of the cases was there decided congestion of the mucous membrane of the air passages causing coryza, sneezing, discharge from the nostrils, and bronchial cough characteristic of typical influenza. In quite as large a proportion of the cases, the air passages remained free from irritation, but nausea and sometimes vomiting and diarrhœa with abdominal pains were present from the beginning. The remaining cases amounting to 25 or 30 per cent. of the whole presented only chills followed by two or three days of pyrexia, severe pains, and decided muscular weakness with loss of appetite. Many of these, however, continued to complain of weakness and soreness of the muscles, and frequent shifting neuralgic or rheumatic pains for several weeks. It was chiefly in the first group of cases that pneumonia was met with as a serious complication or as a sequel; while cases in the second group were more frequently followed by typhoid fever, or a persistent intestinal catarrh.

Etiological Considerations.—The nearly simultaneous appearance of the recent epidemic over large districts of country, and its sudden attack of many individuals in a community on the same day, belonging to different classes of society and having had no personal contact with each other or with any previous cases of the disease, renders it impossible to explain its origin and spread from contagion and personal intercourse. When a disease thus suddenly attacks its victims in various parts of a city during the same twenty-four or forty-eight hours, the victims being limited to no one class, age or sex, we are compelled to look for the efficient cause or causes in some vehicle or agency to which all are exposed. Only two such vehicles are known to exist in Chicago, viz.: the atmosphere and water. The whole population, rich and poor alike, receive their supply of the latter from lake Michigan through the tunnels and pumping works.

Since the enlargement of the Illinois and Michigan canal connecting the Chicago river with the Desplaines by which, with the aid of pumping works, the sewage of the city is during the greater part of each year, prevented from flowing into the lake; the water supplied to the inhabitants is of good quality except for a limited time after the usual spring and autumn freshets, during which the current in the river resumes its natural course and sweeps a large amount of accumulated deposits into the lake. On these occasions the contamination of the water of the lake often extends far enough to reach the inlet of the tunnel and is brought back through the hydrants for every family's use. Usually these periods have been of brief duration. But owing to the inadequency of the pumps connecting the river with the canal or their inefficient management, a much larger amount of river water and sewage was allowed to flow into the lake than usual during all the months of December, January, February, and March. This was proved by repeated examinations of the water taken from the hydrants in different parts of the city by competent chemists and microscopists. Professor J. H. Long, of the Chicago Medical College Laboratory, who has made frequent examinations of the city water supply for seven or eight years past, states that the hydrant water usually yields from .005 to .010 free ammonia per million parts of water, and from .060 to .090 parts of albuminoid ammonia when in average good condition. But his examinations showed that the water during January and the first part of February, 1890, contained from .200 to .255 parts of free ammonia per million parts of water, and from .136 to .183 of albuminoid ammonia. During the latter part of February the pumps lifting the water from the river into the canal and carrying it from the lake, were repaired and made to do much more efficient work. In consequence of this the several analyses made by Professor Long from March 6 to the 22d, showed free ammonia varying from only .009 to .016, and of albuminoid ammonia from only .072 to .096 parts in the million.

Drs. Robert Wahl and Nevins commenced repeated microscopic examinations of the hydrant water from different parts of the city during the latter part of January, 1890, with the following results: Jan. 21, 1,146 microörganisms of six varieties in a cubic centimetre of water; Feb. 13, 1,608 of seven varieties in the same quantity of water; Feb. 24, 1,321; March 21, 462, and March 31, 878 of six varieties. The natural or uncontaminated water of Lake Michigan contains only from 50 to 150 microörganisms to the centimetre, and the best authorities claim that water to be fit for domestic use should not contain more than 200 microörganisms to the centimetre.

It is thus seen that during the period occupied by the recent epidemic of influenza and the coincident high ratio of mortality from pneumonia, typhoid fever and gastro-intestinal affections, the water supplied to the inhabitants was both chemically and bacteriologically impure in a high degree.

In studying the atmospheric or meteorological conditions in detail I find some items worthy of careful attention. From the records kindly furnished from the U. S. Signal Service Station in Chicago I take the following comparison of mean monthly temperature for the six months ending March 31, 1890, with the corresponding months ending March 31, 1889:

	1889			1890	
October	Nov	Dec	Jan	Feb	March
49.4°	38.5°	40.6°	30.8°	32.4°	29.5°
	1888			1889	
48.4°	40.9°	31.3°	28.4°	19.1°	36.5°

Dec., Jan., Feb., 1889, 1890, 34.6° Average mean, 36.8°
Dec., Jan., Feb., 1888, 1889 26.2° Average mean, 34.1°

While these figures show the average mean temperature for the six months ending March 31, 1890, to be only 2.7° above the average mean for the six months ending March 31, 1889, the average mean temperature of the three epidemic months, December, January, February, 1890, is 8.4° above the average mean of the same months of the preceding year. And in comparing the extremes of the temperature of the three epidemic months with the corresponding months of the preceding year, I find the average maximum of the former is 61.6°, the minimum 4.3°, and the average maximum of the latter 51.6°, and average minimum 8.3°.

The comparative precipitation of water was 33 per cent. greater the three epidemic months than during the corresponding months of the previous year, thus combining an excess of moisture with excess of temperature.

During the months of October, November, December, 1889, and January, 1890, the prevailing atmospheric currents were from the southwest and comparatively light, the greatest velocity gained being 42 miles per hour on January 8. During February the prevailing direction of the currents was still from southwest, but the aggregate velocity for the month was increased 33 per cent. In March the prevailing direction was changed to the northwest, with severe cyclones in several parts of the country, the highest velocity attained at Chicago being 68 miles per hour on the 27th, and the aggregate distance traveled during the month 13,806 miles. During nearly all the month of December and a part of January the atmospheric currents were not only light, but the air throughout the city was so filled with smoke and aqueous vapor as to render the days very dark, so much so that many places of business had to be lighted, and one day not only business places and private residences, but the streets required artificial light throughout the day. The prevalence of southwest winds during the months of December, January and February not only favored the flow of the contaminated water of the river into the lake, but, coupled with the unusual high temperature, it was bringing the atmosphere from over a wide and rich prairie country filled with the products of vegetable decomposition into all parts of the city.

The first days cold enough to either dry the atmosphere or destroy the organic materials accompanying decomposition were on the 21st, 22d and 24th of January, when the epidemic period had reached its full climax, and from which time it began to decline.

The atmospheric conditions throughout December, January and February in the city indicated an almost entire absence of ozone and hydrogen peroxide, and the presence of an unusual amount of free and albuminoid ammonia. From all the foregoing facts it is apparent that for six or eight weeks before the appearance of any cases of epidemic influenza in Chicago, and during the continuance of that disease, both the atmosphere and water used by the inhabitants were impregnated with an unusual amount of free and albuminoid ammonia, and the latter with an abundance of microörganisms through admixture of impure water from the river, while the atmosphere maintained an average mean temperature from 8° to 9° F. above the average for a series of years. Similar coincident unfavorable conditions of the atmosphere and water, though in a less degree, have occurred in other years and have always been accompanied by an increased prevalence of gastro-intestinal disturbances, typhoid fever and pneumonia, and they undoubtedly imparted increased virulence to the specific cause of the more generally prevailing epidemic of influenza. What that specific cause was, is still unknown, notwithstanding the diligent observations of hundreds of skilled microscopists on both sides of the Atlantic ocean. That it was diffused in the atmosphere hardly admits of a doubt, for reasons already given; and whether a microörganism, a ptomaine or chemical product, I think the pabulum on which it feeds and multiplies will be found in connection with the free and albuminoid ammonia, more or less of which are almost always present in the atmosphere, as shown by the recorded observations of Prof. J. H. Long for every day in the year ending August 31, 1883.[1] The extraordinary prevalence of pneumonia in Chicago during the month of January, 1890, certainly could not be attributed to intense cold, dry air, as claimed to be generally the case by Dr. H. B. Baker, in an interesting paper presented to this Section last year; for neither in December nor during the first twenty days in January had there been even a single day of severe cold and dry air in Chicago. Neither was the unusual prevalence and fatality of pneumonia limited to Chicago during the month of January, nor the coincident high temperature for that season of the year.

The Signal Service Bureau reported the average mean temperature over the whole country east of the Rocky mountains during the months of December, 1889, and January, 1890, as being from 5° to 13° F. above the average for a series of years. In Boston it was 10°, New York 10°, Washington 12°, Cleveland 13°, Chicago 9°, and St. Louis 10° above the ordinary average; and the official health reports of all these cities show an extraordinary mortality from pneumonia and acute affections of the respiratory passages, especially during the last named month; and in Chicago, although the average or mean temperature of March was decidedly lower than either of the three preceding months, the number of cases of pneumonia diminished, and still more rapidly in April. A careful examination of the records regarding the noted epidemics of influenza in London during the last forty-five years, by Sir Arthur Mitchell, M.D., and Dr. Buchan (see *British Medical Journal*, April 12, 1890), not only show that such epidemics have been accompanied by a large increase in other inflammatory affections of the respiratory organs, but that they also have prevailed most at the same seasons of the year, namely, between the months of November and April. Their statistics further show that the highest ratio of prevalence and fatality of both the influenza and the associated respiratory diseases was neither during nor directly following the periods of most intense cold, as Dr. Baker's theory would require. On the contrary, during the last half of December, 1889, and all the month of January, 1890, the mean temperature was much above the mean for a series of years, while during February and March it fell below the mean; yet the epidemic was at its maximum during January, which is strictly parallel with its prevalence in this country and at the same time. The same writers also note the fact that during the first four weeks in January, when the epidemic was at its maximum in London, only 343 deaths were reported as from the influenza, while the total mortality from all diseases was 10,065, or 2,258 above the mean rate for the same weeks for the previous ten years, the increase being chiefly from diseases of the respiratory, circulatory and nervous structures and rheumatism. These facts are also strictly parallel with what I have already shown to have taken place in Chicago and other parts of this country; and as they have been observed in a greater or less degree in connection with all the more important epidemics of influenza, or la grippe, they very forcibly suggest the existence of some close relationship, if not identity, of causation between it and endemic pneumonia and catarrhal affections of the mucous membranes generally.

Diseases that are known to be caused by pathogenic germs, ptomaines or specific viruses, are seldom accompanied by any marked increase of mortality from other acute diseases, but more frequently the reverse. The fact that the recent epidemic has passed at a period of great activity in microscopic research, both in Europe and America, without any satisfactory identification of a microörganism as its essential cause, affords at least strong presumptive evidence that such cause does not exist. On the other hand, remembering that the epidemic influenza has pretty uniformly been accompanied by an increased mortality from acute diseases generally, with only a small mortality attributed directly to it, while it is accompanied and followed for a considerable time by great impairment of hæmatosis, innervation and muscular strength, the question is again suggested whether the efficient cause does not consist in some modification of the molecular arrangement and properties of those organic products designated as free and albuminoid ammonia, the inhalation of which impairs the function of the corpuscular elements of the blood and excites irritation in the nervous, pulmonary and mucous tissues of the body. Such a condition would render the system more susceptible to the action of morbific causes generally, with less vital resistance, and thereby account for the marked increase of mortality from all diseases. When another epidemic appears, it is to be hoped that the elements of the atmosphere will be subjected to the most rigid chemical, microscopic and spectral scrutiny.

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[1] See Journal of the American Medical Association, Vol. ii, pp. 169-170, 1884.

One more item connected with the recent epidemic is of practical importance, namely: the frequency of relapses and the unusually protracted nervous and muscular weakness that followed a large proportion of the cases. I had the opportunity of observing the characteristics of each of the epidemics in 1847–8, 1857–8, 1872–3, in neither of which was there so great a variety of symptoms and complications as in that of 1889–90. And I am sure that since the subsidence of the recent epidemic in Chicago I have been called upon to prescribe for a larger number of patients complaining of extreme weakness and inability to resume their usual occupations, than after all the three preceding epidemics combined.

The most constant symptoms in these cases were, a great sense of exhaustion on making any physical exertion, a soft weak pulse, cool extremities, frequent perspiration with trembling and sense of inability to breathe, indicating great impairment of the vaso-motor, cardiac and respiratory nerve functions. In many of them there was either paleness or leaden hue of the surface, loss of appetite, mental despondency, irregular pains or hyperæsthesia frequently changing from one part to another, and in some instances anæsthesia or defective sensibility. All of them referred the commencement of their trouble to what they called an attack of "*la grippe*" in January or February, characterized by chilliness, fever, and severe pains, for which they had been treated with efficient doses of antipyrin, acetanilide or some one of this group, and some quinine. The pyrexia and severe pains had been promptly relieved, and though the latter often returned they were as often relieved by the same remedies, but leaving the patients in the debilitated condition I have described. That the antipyretic remedies just mentioned were very extensively used during the prevalence of the epidemic, not only in regular practice but in irregular practice as well, and by patients without the advice of any physician, is shown by the fact that the supply in the market was so rapidly diminished during January and February as to cause a marked increase in the price of those drugs. How far the consumption of these remedies contributed to the extraordinary and protracted physical debility that has followed, is a question of great importance. That in antipyretic doses, they diminish the oxygenation and decarbonization of the blood, retard the metabolic or molecular changes in the tissues, and depress the vaso-motor, cardiac and respiratory nerve centres, is fully proved both by direct experiments on animals and by clinical observation, as I have shown more at length in another paper. Thus Lepine in experimenting on dogs with acetanilide, produced in them trembling, apathy, weakness, diminished temperature, cardiac weakness, and loss of excitability of peripheral nerves. The blood became loaded with methæmoglobin and on analysis showed great deficiency in oxygen. Binett produced similar results in experimenting on cats and rabbits with exalgine (see *British Medical Journal*, February 8, 1890). Henocque in experimenting with the spectroscope found that when these remedies, antipyrin, acetanilide, exalgine, etc., were present in the blood the results were reduction of the oxyhæmoglobin and the production of methæmoglobin with loss of oxygen, thereby asphyxiating the corpuscles. Very recently Dr. John D. Kales has obtained the same results by a series of experiments with the spectroscope in the laboratory of the Chicago Medical College (Medical Department of the Northwestern University).

It is very evident that the liberal use of remedies that relieve pain and reduce temperature by direct impairment of the function of the corpuscular elements of the blood and tissues and of the nervous centres of animal life, could not fail, especially when frequently repeated, to produce great and protracted debility, and sometimes to contribute much toward the development of a fatal collapse, one or two instances of which came under my observation.

DR. C. A. LINDSLEY approved the paper, but differed as to the effect on intestinal diseases. In his locality it was confined to the air passages. Noah Webster describes as early as 1789, or 100 years previous to the epidemic under discussion, almost identically the same disease, though no neuralgic symptoms are mentioned. Speaker stated that the epidemic began in New Haven about December 25, 1889, and suggested that others give dates.

On motion of DR. H. B. BAKER, it was, requested that the exact dates of the appearance of the epidemic in various localities be noted as suggested by Dr. Lindsley.

DR. A. N. BELL stated that he had observed that the disease had proved most fatal in cases where there was the greatest depression, or where the surroundings were unhealthy and the vitality of the patient was lowest.

DR. W. L. SCHENCK, of Kansas, observed more symptoms of neurotic origin than those of air passages, and treated it as a neurosis. In his State it was sporadic during the last two weeks of December, and epidemic during the first two weeks of January.

Dr. Rutherford, of Texas, stated that it began in Rio Grande City January 15, and greatly similated denque. Mortality in Houston great. Gastric catarrh a fatal complication.

Dr. J. G. Hopkins, of Thomasville, Ga., said that the cases in Georgia were complicated with intestinal troubles, that it was an unusual dry season, but that there were no cases of pneumonia, and no deaths in his locality.

Dr. Atchison, of Nashville, stated that the principal characteristics of the disease in Nashville were extreme prostration and low temperature, no inflammatory complications. Mortality slight.

Dr. T. G. Horn, of Colorado, expressed a belief that locality had much to do with characteristic symptoms. In Colorado phthisis was a fatal complication.

Dr. J. F. Hibbard stated that in Indiana, the disease first appeared December 25, and that there were several varieties of the trouble; about one-fourth of the population were affected, but the death-rate did not exceed one in 1,000.

Dr. J. T. Reeve, of Appleton, Wis., noted that the disease appeared December 24 in Milwaukee, and that three-fourths of the population suffered from it; did not think the deaths exceeded one in 1,000.

Dr. J. Cochran, of Montgomery, Ala., stated that the first appearance was in Decatur, Ala., and that a greater number of cases appeared in the pine countries, and sparsely settled districts.

Dr. J. S. Plunkett stated that many cases which he had observed were complicated with constipation followed by diarrhœa.

Dr. A. Y. Field, of Des Moines, Ia., believes that impure water should be eliminated as a factor in the causation of the disease, and that the disease has some self-propelling power, and is not dependent on atmospheric influences. The clinical history was that of an ordinary cold with marked prostration.

Dr. W. H. Long, M.-H. S. asked if pneumonia was not the usual complication in fatal cases?

Dr. C. H. Fisher, of Rhode Island, stated that the disease appeared in his locality December 20, and that the nasal and pharyngeal symptoms were most marked.

Dr. N. S. Davis then closed the discussion by stating that the disease was not recognized in Chicago previous to December 24. He did not wish to be understood as attributing the epidemic to impure water, but referred to the existence of unusually impure water in Chicago at this time as a coincidence.

Dr. T. More Madden has received from the Texas Medical College the honorary degree of Doctor of Medicine.

A STUDY OF THE SOCIAL STATISTICS OF 4,663 CASES OF ALCOHOLIC INEBRIETY.

TREATED AT THE INEBRIATES' HOME, FORT HAMILTON, L. I., FROM JANUARY 1, 1880, TO DECEMBER 31, 1888. INCLUDING STATEMENT SHOWING RESULT OF TREATMENT, ETC.

Read in the Section of Medical Jurisprudence, at the Forty-first Annual Meeting of the American Medical Association, May, 1890.

BY I. D. MASON, M.D.,
CONSULTING PHYSICIAN INEBRIATES' HOME, FORT HAMILTON, L. I.

Nativity, *sex*, *age*, *temperament*, *climate*, *occupation*, *custom and social conditions*, are important factors in the etiology of alcoholic inebriety, outside of the well-known causes of preceding or accompanying disease or injury and heredity, and also, to a certain extent, are to be taken into consideration in the treatment of all cases of inebriety.

Nativity of the 4,663 cases was as follows: United States, 3,186; Ireland, 826; England, 203; Scotland, 77; British Possessions, 73; Germany, 109; other nationalities, 44; not recorded, 145. The United States naturally compose a large majority, as we find in asylums of other countries, inhabitants of those countries as inmates will be in excess of all others; but we must acknowledge that the nervo-sanguine temperament of the American is peculiarly susceptible to the evil effects of alcohol, and that, other things being equal, the average American would sooner succumb to inebriety than his transatlantic brother. Ireland takes the lead among foreign nationalities. Next in order we have England, Germany and Scotland, the lesser nationalities occur in insignificant proportions, and do not call for special comment.

As a matter of *racial importance* I cannot recall a single instance of acute or chronic alcoholic mania in the negro, among the several thousand inebriates who have passed under my notice during a period of nearly twenty-four years.

In reply to a series of questions, Dr. Landon B. Edwards, of Richmond, Va., informs me "that the negro is rarely the subject of chronic mental or nervous disease, arising from alcohol, although it is rare to find a negro, male or female, who does not drink. Alcoholic liquors are preferred, and yet the laboring negro, as a rule, is not a drunkard." He attributes this to the outdoor life, simple habits, and low grade of nervous organization of the negro.

Climate. As to the influence of climate on inebriety, we have no special statistics to show, but it is a popular impression, that the inhabitants of low levels, especially near the sea-coast, are more apt to be intemperate than the dwellers on the higher plateaus, table lands, and mountainous districts. The influence of certain barometric conditions, dependent upon atmospheric changes, in influencing and producing certain conditions of the nervous system, is familiar to all who have made this subject a special study.

It is also a well-known fact that in malarious districts, the depressing effects of malarial cachexia are counteracted by the free, habitual use of quinine, strychnine, coffee and other nerve stimulants, among which alcohol predominates. No one will dispute the fact that an unhealthy, enervating climate is more apt to produce intemperance and consequent inebriety, than a climate having just the opposite characteristics. Climate, undoubtedly, is one of the factors in the production of inebriety, as it is of other diseases.

Sex.—There were 4,084 males and 579 females. The Fort Hamilton Asylum is intended more especially for males, hence the small proportion of females. It has no provision for females of the better class; the female inmates were from the middle and lower classes of society—but the inference must not be drawn that inebriety does not prevail among females of all classes, or that the above is a fair relative proportion of the inebriates of both sexes. In this country, undoubtedly, the male inebriate far exceeds in numbers female inebriates. But this is not universally the case. In England[1] and Wales the habitual inebriate females already convicted to the habitual inebriate males already convicted are as three to one. In England, he believes, especially among the higher classes of society, inebriety prevails to a greater extent among females than in the same class and sex in the United States.

Social Conditions.—The married male inebriate exceeds in numbers the unmarried male inebriate. There were 2,098 married, 1,744 single, male inebriates; and especially does the married female inebriate in far greater proportion exceed the unmarried female inebriate. There were 401 married female inebriates and only 48 single female inebriates. Must we conclude that, other things being equal, the married life predisposes to inebriety? It would seem so, in the case of females at least. The married female has a much greater strain upon both her mental and physical constitution than the unmarried. A fact substantiated in the reports of our Asylum further shows, that unmarried males are more frequently subjects for readmission than the married; that is, that they are more apt to relapse. The reverse is true in regard to females. Married females are more apt to relapse than unmarried females. The latter are not apt to relapse; if they do, it is the exception to the rule. The spinster, then, is the most temperate member of society. There were 242 widowers and 130 widows also recorded.

Approximation of Ages.—The ages of the majority of the cases treated were from 20 to 60, the greater proportion from 30 to 50, and of these considerably over one-half were between 30 and 40 years of age. Below the age of 20 and above the age of 60, comparatively few. The oldest patient was 73 years of age, and the youngest 18 years. We must conclude that the great majority are of that period of life which is the most effective for usefulness and attainment under normal conditions. In other words, alcohol cripples and handicaps a great majority of inebriates at the most useful period of life. Another fact is, that inebriates may exceptionally, but do *not* as a rule, attain to a *long life.* About one in 385 of inebriates, whom he treated, reached the age of 70 years.

Occupation.—Let us now consider the relation of inebriety to occupation. Imagine a community of 4,663 adult inebriates, embracing every trade, employment or profession. Excluding 234 males who had no occupation, and 562 females, 275 of whom were unemployed, and the balance either domestics or housekeepers, we have about 3,867 males who were variously occupied, representing two hundred trades, professions, commercial, mercantile or agricultural occupations.

We find directly engaged in the *liquor business* 71 bar-tenders and 51 liquor dealers. The in-door trades exceeded the out-door trades. Among those engaged in the out-door occupations, inebriety seemed to affect most those whose business especially exposed them to irregular hours and inclement weather,—teamsters, cartmen, coachmen, carmen, conductors, drivers. One hundred such are recorded. The next in frequency were butchers (45); next stone-cutters (28); next plasterers (26); next coopers (19). The other occupations being at or below the latter figure, and running at or about the same average or percentage. Among in-door occupations we find painters (121) in the majority. The painter handles alcohol, turpentine, etc.; his occupation is not a healthful one; he is apt to contract diseases incident to it, as turpentine poisoning, lead colic, and nervous diseases arising from lead poisoning, as wrist drop, or paralysis of the extensor muscles, etc.

Next in order come printers (58) and pressmen (58). Long hours, extra work, night work and an employment that demands great rapidity, and probably more mental and physical strain than the average occupation, may account for the fact that the printer and the pressman take the second place.

The other indoor trades are in the following order: Shoemakers (45), plumbers (39), tailors (38), hatters (34), tinsmiths (31), waiters (28), photographers (27), carpet-weavers (22), Glass-blowers (21)—the remainder of the in-door trades at or below 20.

The greater part of the various occupations were from mercantile or commercial life. At least 1,200 or 1,300, or about one-third of the entire number belonging to one or the other other of the above classes in the following order: Clerks (565), merchants (283), bookkeepers (100), salesmen (152), agents (78), brokers (44), the balance being made up of canvassers, contractors, railroad officials, bankers, publishers and superintendents, etc.

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[1] Inebriety, by Dr. Norman Kerr, London, Eng.

In agricultural occupations we note, farmers (34) and gardeners (15).

Professions.—Four hundred and seventy-seven, or about one-eighth of the whole number, belonged to the professions, as follows: Physicians (115), lawyers (111), engineers (58), druggists (43), journalists (39), artists (32), students (21), reporters (19), clergymen (10), actors (9), the balance being in small proportion, architects, accountants, actuaries, notaries public, chemists, assayers, army officers, dentists, editors, etc.

Why physicians are in excess of other professions is due to the fact that they lead very arduous lives, both physically and mentally, with irregularity as to sleep and diet, rest and recreation; but there is another fact also, that the physician would be more likely to appreciate and avail himself of the asylum privileges for the treatment of his inebriety than any other of the professions.

In considering the various avocations the usual average relation of the occupation or profession to a normal condition of society must be considered. In this way only can we get at the fact as to whether any one calling exceeds the other in a tendency to lead to inebriety.

Results of Treatment, etc.—Total cases, 4,663; still under treatment, 1,283; total cases discharged and to be accounted for, 3,380; doing well, 1,465, 43 per cent.; lost sight of, 662, 29½ per cent.; unimproved, 555, 16½ per cent.; readmitted, 556, 16½ per cent.; died, 81, 2½ per cent.; transferred to other institutions, 61, 2 per cent.

Doing well.—By this we mean the patient is restored to society, to his business and social relations. Exclusive of *death* and *transfer*, the percentage will be nearer 43 per cent. It must also be considered that the inebriate on an average is not brought to us for treatment until after his inebriety has existed *ten* years, his system broken down, and oftentimes the subject of incurable disease, the result of his inebriety or some disease or injury with which his inebriety is complicated, and which may have preceded and been the cause of it. Again, not only as inebriates apply at a late period for treatment, but only about one-quarter of those who do apply remain over six months, while three-fourths remain at periods varying from one to four months, and the large majority less than the legal limit of three months, so that if we were to apply the same rule that is applied to other diseases which are submitted to us to be cured, that is, having the patient brought to us at a *reasonable period after* the disease tendency has manifested itself, and having also the patient *remain under* our care a *reasonable length* of time for treatment as each case may demand, it would be easy to see that our ratio of cures would be 75 or 80 per cent., instead of 43 per cent. as they now are, which is nevertheless a good showing considering the disadvantages we have had to contend with. We are confident that in the future under proper conditions that at least three-fourths of the inebriates treated in our asylums will be cured.

Thirty-six cases were *lost sight* of, or *unimproved*, but this does not mean they will not be heard of again; a certain proportion will return to our institution, and of these a number will be cured. Some of our most successful cases are those who have been in the asylum at different periods under treatment. Of the balance, some will die, others will move away, others go to similar institutions elsewhere located. We shall not make any comments as to *deaths* except to call attention to the *remarkably* small percentage, which is about equally divided between those who died outside of the asylum and those who died in the asylum. Some 61 were transferred to other institutions—30 to the *lunatic asylum*. We observe the tendency of inebriety toward insanity. The great majority of inebriates carry unevenly-balanced minds; they are on the verge of insanity all the time, and not unfrequently pass over the line. In any inebriate asylum it would be safe to assert the large majority of inebriates, at least for the first few weeks after their entrance into the asylum, are in a mental condition, that to say the least, is not normal. The above 30 transfers were marked cases of lunacy, acute or chronic mania, which were not suitable for an asylum of our character. The moral effect and the law of association forbid that the inebriate of weakened mind and body should be associated with insane persons. The tendency of every inebriate is that way, and such association would only precipitate the event. This is the principal argument against the incarceration of insane persons and inebriates in the same institution, although there are other arguments equally effective. A certain proportion of persons were brought to the asylum suffering from various diseases or infirmities that rendered them unfit subjects for our asylum. Of these some 31 were transferred to hospitals or other institutions.

We have thus given a few general observations, resulting from a study of these special statistics. We have not by any means exhausted the subject, but we trust we have added some points of interest and importance, not only to the etiology of inebriety, but also some indications for its most successful treatment.

THE Paris Municipal Council has just voted 270,000 francs ($54,000) for the construction, on ground cut off from the Mont Parnasse cemetery, of a sleeping refuge for pregnant women, in a state of destitution.

THE MEDICO-LEGAL RELATIONS OF PARALYSIS FROM BRAIN DISEASE.

Read before the Section on Medical Jurisprudence at the Forty-first Annual Meeting of the American Medical Association, Nashville, Tenn., May, 1890.

BY DANIEL R. BROWER, M.D.,
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Hemiplegia, be it complete or partial, is a frequent and important result of brain disease. Any cause that sufficiently disturbs the nutrition of the psycho-motor centres of the brain, or the motor tracts below these centres, will produce this condition. The severe forms of cerebral congestion, cerebral hæmorrhage, cerebral embolism, cerebral thrombosis, cerebral abscess, cerebral tumor, may be enumerated as pathological conditions producing this paralysis. In the case of hemiplegia following cerebral congestion the duration of the pathological condition is short, and the resulting mental disturbance is slight and not usually of long duration. The extent of the paralysis, its duration, and the resultant mental disturbance depend upon the situation and extent of the pathological lesion. They all produce more or less mental disturbance, such as irritability of the emotions, irresolution of purpose, failure of memory, and interfere with the power of converting words into ideas. The tracts in the internal capsule, through which the conduction of nerve impulses have to travel, are in such close and intimate relationship with the speech centre, directly on the left side and indirectly on the right, that there is more or less disturbance of this function in every case. In some the disturbance is transitory and not very pronounced; in other cases it is of long duration and extreme.

The ordinary onset of hemiplegia, be its cause what it may, is a loss of consciousness. The shock has produced a condition of things so profound that the patient is devoid of all power of expression. In the milder cases, if consciousness is not entirely lost, it is usually more or less impaired. This loss of consciousness may be due simply to the shock to the nerve centres, of a hæmorrhage or an embolus, or to the completion of the thrombosis; or it may be due to the congestion of other territories of the brain, that is the secondary result of cutting off the territory that gives rise to the hemiplegia, from the blood-supply. This congestion of the brain will produce more or less exudation, and this exudation, by pressure and irritation of the cerebral convolutions, will more or less impair the nutrition of the cells of the brain and the nerve fibres connected therewith. The secondary anæmia that ensues must be followed by more or less venous congestion, and the venous congestion must have as its secondary result a similar condition of exudation, so that the exudates from the active congestion and the exudates from the passive congestion must more or less impair the functional power of the cerebral hemispheres; so that it is not surprising that in every case of hemiplegia there is in the beginning more or less disturbance of the mind. This mental disturbance is characterized by an undue activity of the emotions, by impairment of the intellectual powers, by a dulness of the perceptions, and a lack of will power. In all cases of cerebral paralysis, but especially in the cases of right hemiplegia, there is more or less inability to properly express mental activity either in speaking or writing. The wrong words are used, and very frequently the wrong idea. The words used may not be in accordance with the idea intended to be expressed, so that errors of a serious legal character may occur out of this condition of the cerebral mechanism. They may know perfectly well what they desire to say or to write, but the disturbance in the mechanism of speech and of writing may cause them to write or to say things that they did not intend to say, and thereby seriously violate their normal legal relations.

Our attention has just been called to a case of right hemiplegia in a gentleman possessed of considerable property, with a wife and daughter to whom he had always been most affectionately attached. He made a will, and in that will he bequeathed all his property to his three brothers, already comfortably well off, and with whom he had had for years very little, if any, intercourse, and that of a not very amicable nature, cutting off his natural heirs as far as possible, with whom his relations before and during his paralysis had always been of a most agreeable kind. Just what the condition of mind was that caused this man to commit this breach, it was not easy to determine. Whether he was at that time in a condition of disordered affections, so as to change entirely his natural and reasonable relations to his wife and daughter, and to make unnatural his relations to his brothers; or whether he had, when the will was drawn up, this disturbance in converting into proper language the ideas he intended to convey, and signed the paper without a correct understanding of its contents, is, of course, merely speculation.

I gave the opinion that the will should not stand, that it should be set aside on the ground that the man's mental condition growing out of this paralysis from brain disease, the result of cerebral hæmorrhage, had disturbed his mental condition to such an extent as to make it impossible for him to rightly understand the relations he bore to his family, and to properly convey in language the ideas that originated in his brain.

Such is the profound disturbance of the brain necessary to produce paralysis, and so intimate is the relation of the psycho-motor centres to the emotional and intellectual centres that the paralysis should at least in the earlier stages, raise a presumption of mental impairment, which may be of such a kind and degree as to vitiate a contract or make null and void a will; but as the cases progress the mental equilibrium may be restored even though the paralysis does not improve. The Courts, on the contrary, have repeatedly decided that cerebral paralysis does not raise such a presumption. The Supreme Court of Illinois in Trish *v.* Newell, 62 Ill., p. 201, says: "It is no more a presumption of law that a person rendered unconscious and incapable of mental action by a stroke of paralysis, will continue so for four months thereafter, than that he would so continue when the effect was produced by a wound on the head. Such a result might follow in either case, but *the law does not presume* that it would in either." In this case the testator was stricken with paralysis when 80 years old, rendered quite, if not wholly unconscious, remained helpless, one side continuing paralyzed, and his powers of speech irrevocably lost. The will was made three months subsequent to the apoplexy. In the Court below the will was set aside, but the Supreme Court reversed the Court below. The Supreme Court of Illinois in Rutherford *vs.* Morris, 77 Ill., (397,) cited and approved the above decision, and in giving its opinion, indulged in a fierce diatribe against medical expert witnesses.

The Supreme Court in Brown *vs.* Ridgins, 94, Ills., 568, again cites and approves this decision, the testator in this case being a woman of 62 years, who had cerebral paralysis with an epileptiform onset, and who made a will nine days after the seizure.

The Supreme Court of Pennsylvania in Landis *vs.* Landis, i Grant's cases, 250, cites and approves this same decision.

In the case of a woman who was stricken with paralysis in June, and again in July, who made a will in September 9, and died on October 2, the Court says that mental incompetency does not follow as of course, and it must be shown *aliunde*.

While the legal responsibility of every case of cerebral paralysis should be judged by its own merits, yet the presumption of mental impairment, possibly to the extent of rendering null and void a contract, or vitiating a will, should be present in every case, and if that will or contract is not clearly reasonable, the burden of proof should be with the defendant. He should be required to show that patient was not of unsound mind at the time of making contract or will.

On May 21 the Duke of Connaught formally opened the Jubilee Hospital just completed at Victoria, B. C., which has been erected in commemoration of the Queen's Jubilee.

MEDICAL PROGRESS.

Massage in Gynecology.—Dr. Gaudin, in *El Prog. Gyn.*—In 1868 Brauel first suggested it as a means of treating uterine affections. It may be used in the so-called external form by frictions, and by relaxations of the abdominal wall, through which the volume and outlines of the uterus may be perceived. This suggests that massage can be used only in cases in which there is little abdominal adipose tissue. The patient should be in the dorsal position, with thighs flexed and knees separated. The rectum and bladder must be empty and respiration must be regular. Kaltenbach has advised that the bladder and rectum be filled with warm water, the vagina tamponed, and that these cavities be quickly evacuated when one is about to make a bi-manual exploration. Such a plan is of advantage in many cases, especially if one is making an exploration for purposes of diagnosis, but it would hardly be suitable for daily use in cases in which massage is to be employed. It is important that the fingers which are to operate in massage be applied with the palmar surface tangential to the diseased organ—that is, they are not to be forced perpendicularly upon the organ. The adominal and vaginal walls may at first show a certain degree of rigidity, but there is always a space in which the finger can be placed in every case which is suitable for this treatment—namely, the fundus of the anterior subpubic space, immediately behind the symphysis pubis. The external hand, therefore, will have its grasp above the mons veneris, the fingers radiating toward the umbilicus, while the index and middle fingers of the other hand will be passed into the vagina. If one finger alone is introduced into the vagina, it may cause either pain or undue excitement. The dorsal surface of the fingers introduced into the vagina should rest against the posterior commissure of the vulva. The movements of friction, pressure, and malaxation should always be slow and regular. The force exercised by the two hands should be in exactly opposite directions—that is, while the external hand should work downward, the fingers within the vagina should work upward. Anteversions of the uterus show better results from massage than any other form of displacement. In chronic metritis, and all other affections which result in hypertrophy of the uterus, the fingers within the vagina should support the uterus while friction is exerted by the external hand upon the posterior portion of the organ, a concentric compression being practiced. If there is infiltration in the circum-uterine cellular tissue, the external hand should fix the organ while massage is practiced by the fingers in the vagina upon the cervix and the anterior and posterior portions of the uterus. When the uterus is fixed in pathological anteflexion or anteversion, a kind of passive gymnastics should be practiced upon such portions of the organ as may be moved; if atrophy or sclerosis are present, one can only hope for an improvement, but not a cure of the condition. If flexion is the result of adhesive bands caused by pelvic peritonitis, the prognosis will be favorable; massage will produce a decided improvement in the circulation. Massage is contra-indicated in conditions of acute inflammation.

Rigorous antisepsis should be observed in all cases in which this treatment is to be employed. The diagnosis should be exact, and the seat of the lesion carefully determined in every case. The mobility or immobility of the uterus, the existence or non-existence of adhesions, should all be carefully ascertained, and in some cases it will be necessary to use an anæsthetic before a diagnosis can be made. Massage per rectum is advocated by some, but is believed to be impracticable on account of the slight tolerance of such interference by that organ. The uterine affections in which this treatment is indicated are the following:

1. All chronic and atonic conditions of the uterus.
2. Uterine inertia and its consequences—amenorrhœa, dysmenorrhœa, chlorosis, and anæmia.
3. Neuralgia of the pelvis, coccygodynia, oöphoralgia, etc.
4. A tendency to the accumulation of fat in or upon the genitals.
5. It is also recommended by some gynecologists for those nervous or mental disorders, which appear to be reflected from uterine disease—such as hysteria, neurasthenia, hypochondria, etc.; but for such conditions the author believes this treatment uncertain and dangerous.—*Arch. Gyn. Obstet. and Pæd.*

THE SUBCUTICULAR SUTURE.—This is the name given by MR. KENDALL FRANKS to a method of suturing wounds, especially small wounds about the neck and face, where it is desirable, for cosmetic effect, to leave as little trace as possible in the form of a scar. The suture is a continuous one, and fine catgut must be used and a fine curved needle. The needle must be passed horizontally, and at the cut edge of the wound, not at a distance from the edge, as in ordinary suturing. The author's description in the *British Medical Journal*, is as follows: "I begin at a point about a quarter of an inch from the upper angle of the wound. The needle is passed horizontally underneath the epidermis of the skin into the cutis vera, and emerges again from the cutis vera at the angle of the wound itself. It is then passed in a similar manner into the cutis vera alone on the opposite side of the wound, beginning at the extreme angle and emerging at a point a quarter of an inch from it. The catgut is drawn through so as to leave just enough at the first point of entrance to enable it to be tied to the portion of the suture which holds the needle. This forms a starting-point. The needle is again inserted horizontally into the true skin, beginning immediately below the first point of entrance, and comes out again a quarter of an inch lower down; it is then passed similarly into the other edge of the wound at a point corresponding exactly to the last point of emergence on the opposite side, being brought out again a quarter of an inch lower down. This method is continued until the lower angle of the wound is reached." Of course, as the suture is tightened the cutaneous edges of the wound will be brought into close and even apposition. An experience of several years with this method, especially in connection with wounds made for the removal of scrofulous glands in the neck, has satisfied the author of its utility. It also has the indorsement of such well-known men as Dr. Clifford Albutt and Mr. Pridgin Teale. It is but another form of buried suture, and certainly must require very delicate manipulation, a very fine needle, and aseptic catgut in order to insure a successful result. It is well conceived, and does away not only with the blemish of a linear scar in a conspicuous place, but also with the equal unsightliness of stitch marks. As the author remarks, this is not a slight consideration for women or for men with whom occupation or fashion interferes with their allowing the hair to grow in the vicinity of such disfigurements.—*New York Medical Journal.*

VAGINAL EXTIRPATION OF THE UTERUS FOR RETAINED PLACENTA.—A case of this character is reported from the practice of L. ROOSENBURG. The patient, a woman 24 years of age, had borne two children at full term and had aborted once at six months. The midwife removed the placenta with difficulty; later on the uterus was curetted on account of hæmorrhage. On the 24th of March the patient again aborted at the fourth month. The midwife attempted to remove the placenta, but the cord broke off, leaving the placenta *in utero*. A chill followed by fever set in immediately after delivery. These attacks were repeated daily and became more severe; the lochia became foul and scanty and the patient rapidly sank. The author was therefore called in on the 30th of March. On the following day the patient was admitted to the hospital with a temperature of 41.5°, a pulse of 130 and respiration 40. She complained of dyspnœa. On internal examination the os uteri was found to be surrounded by a thick inelastic wall which admitted only two fingers; the placenta could not be felt. After thorough disinfection iodoform gauze was introduced. In the night the temperature fell to 37°, but rose again the following morning, reaching 40.3; pulse 132, respiration 44. On the following morning the tampon was removed. The os had not dilated, but an attempt was made to remove the placenta by means of Volkmann's spoon—this attempt failed. On the following day the patient's condition was still worse, and believing that she could not live twenty-four hours longer under existing circumstances, the reporter decided to remove the uterus through the vagina. This operation having been performed, iodoform gauze was introduced into the lower part of the peritoneum and the vagina packed with cotton soaked in iodoform glycerine. The patient's condition rapidly improved; the ligatures came away in ten days, and in two weeks the patient was able to walk about. The uterus was examined immediately after the operation. Upon cutting halfway through the thickness of its walls a very fetid odor was noticed; a second stroke of the knife divided the placenta and laid open the uterine cavity. The placenta was firmly adherent, was black on its free surface and emitted a horrible odor. At various points placentitis was seen.—*Cent. für Gyn.*

THE THERAPEUTICS OF CHLORALAMIDE.—So many new drugs are being put on the market, that no practical physician can hope to take cognizance of all of them. The Germans manufacture new compounds *ad infinitum*, and have been doing so for years, but only a few have taken and held any recognized place in the therapeutics of to-day. Chloralamide is a comparatively recent one, but it would appear that it has come to stay. In an interesting article on this drug by DR. STEELE, *Pacific Med. Jour.*, he gives the following as its therapeutical indications: Chloralamide is successfully employed in conquering insomnia, and particularly that form denominated simple or idiopathic insomnia, not due to excitement or severe pain. It is, furthermore, possible for the wakeful patient to enjoy several nights of natural sleep after a single dose. The best results occur when the drug is used in insomnia due to nervousness, neurasthenia, hysteria, "spinal disease" or old age; next best when the causes are chronic alcoholism, alcohol excess, cardiac and bronchial asthma, pleuritis, phthisis, pericarditis, arterial sclerosis, organic heart disease, typhoid fever, gastritis, subacute nephritis, ascites, diabetes mellitus and in the morphine habit. It is less effective when wakefulness is due to tabes dorsalis, neuralgia, progressive paralysis, the excitement of insanity, cerebral softening with delirium, melancholia, chronic mania and acute mania. In these conditions, doses of from 30 to 60 grs. are required, providing such doses are tolerated. The drug is useless when the insomnia results from paralytic dementia, maniacal excitement or hallucinations, severe neuralgia or other pain, violent cough, distressing headache, delirium of cerebral apoplexy and from delirium tremens. Even pain, when not acute, is often relieved, and the large doses necessitated are, by many patients, preferred to morphine. Chloralamide, in doses of from 20 to 60 grs., has checked the pains of thoracic aneurism, carcinoma of the stomach and liver, sarcoma of a rib, erysipelas, rheumatic fever, floating kidneys, neuralgia, gallstone, varicose ulcer and alcoholic neuritis. In chorea, a boy of 11 years of age was cured in five days by 15 grs. of the drug given three times daily, and in like manner a girl, after receiving no benefit from other forms of treatment, was afforded relief in eight days. When administered in phthisis it was found that the troublesome night sweats disappeared.—*Canada Lancet.*

A NEW METHOD OF TREATING FRACTURED PATELLA.—At a recent meeting of the Clinical Society of London, MR. MAYO ROBSON showed a patient (a young woman) on whom he had operated by a novel method to secure bony union in a case of fracture of the patella. The skin over and around the joint was cleansed and rendered aseptic and the joint then aspirated. Drawing the skin well over the upper fragment, a long steel pin was passed through the limb from one side to the other, just above the upper border of the patella. The limb being similarly transfixed just below the patella, gentle traction on the pins brought the fragments into apposition. Antiseptic dressing was applied and left undisturbed for three weeks; when it was removed there was no sign of irritation, and the temperature had never been above normal. As the fragments seemed well united the needles were withdrawn, a plaster of Paris splint applied, and the patient allowed to go home. Mr. Robson observed that the only precaution necessary was to draw up the skin over the upper fragment, in order to avoid undue traction upon it when the fragments were approximated. If there was much effusion in the joint it would be desirable to aspirate.—*Medical Record.*

RESORCIN AS AN ANTIEMETIC.—Although impure resorcin as a rule causes nausea and vomiting, the chemically pure article, according to ANDEER, is the surest antiemetic that can be administered in all kinds of vomitings from the most varied causes, even in the persistent vomiting of hepatic, renal and menstrual colic, in the pernicious vomiting of pregnancy, in sea-sickness, in vomiting after overindulgence in food, drink, etc. It may be given in solution or powder in daily quantities of from 0.5–3.0 grm.—*Ther. Monatshefte.*

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SATURDAY, JUNE 7, 1890.

MEDICAL EDUCATION AND MEDICAL COLLEGES.

In response to the circulars sent out by the medical colleges of Baltimore, inviting a convention of delegates from all the medical colleges in this country, delegates representing fifty-five such colleges assembled in the Senate Chamber of the State House, Nashville, Tenn., and were called to order at 3 P.M., May 21, 1890. PROF. FRIEDENWALD for President and PROF. WINSLOW ANDERSON for Secretary, were made temporary officers. The Secretary having completed the list of delegates present, a committee of five was appointed to report on permanent organization. This committee after a brief consultation recommended a permanent organization to be called "The National Association of Medical Colleges," and nominated the following officers: For President, N. S. DAVIS, Chicago; First Vice-President, AARON FRIEDENWALD, Baltimore; Second Vice-President, H. D. DIDAMA, Syracuse, N. Y.; Third Vice-President, T. MENEES, Nashville, Tenn.; Fourth Vice-President, SAMUEL LOGAN, New Orleans; Fifth Vice-President, W. H. PANCOAST, Philadelphia; Sixth Vice-President, C. A. LINDSLEY, New Haven, Ct.; Seventh Vice-President, W. F. PECK, Davenport, Ia.; Secretary and Treasurer, PERRY H. MILLARD, St. Paul, Minn.

The report of the committee was accepted and the officers nominated were unanimously elected.

Dr. Davis on taking the chair briefly urged upon the convention the desirability of an immediate and general adoption of a more complete and graded curriculum of studies, longer annual courses of college instruction, and a fair standard of general education before entering upon medical studies. He stated that much advancement had been made, many of the best medical colleges in the country already fully occupying the advanced position desired; but the honor of the profession and the interests of the people alike require that all should come up to the same advanced standard.

A committee was appointed to report definite propositions for the consideration and action of the Association, and report to an adjourned meeting at 8 P.M., in the same place.

At the time and place designated the College Association was called to order by the President. The Committee on Business reported a series of propositions which were considered *seriatim*, and after some amendments were adopted as follows:

1. That the colleges represented in this Association adopt three graded courses, of not less than six months each, no two courses to be given in the same year.

2. That both oral and written examinations be required of all students.

3. That laboratory instruction in chemistry, histology, and pathology be required.

4. That the colleges belonging to this Association demand the following examination of all applicants for matriculation, viz.: A composition in English of not less than 200 words; the translation of easy Latin prose, provided, that students be allowed one year to make up any deficiency in regard to this item; an examination in higher arithmetic and in elementary physics. It is provided, however, that candidates who are graduates or matriculates of recognized colleges of literature, science and art, or of normal schools supported by the different States, be exempt from the provisions of this examination. It is furthermore provided, that it shall be the duty of the secretaries of the various colleges composing the Association to transmit, on request, to the Secretary of this Association a list of all the matriculates, together with a copy of all questions propounded at the matriculation examination. It is also provided that all the matriculation examinations be in writing and, when requested, the original papers shall be forwarded to the Secretary of this Association.

5. That the adoption and enforcement of the above requirements by a college be necessary to the admission of said college to this Association or to its continual membership in the same.

6. That the above requirements be enforced with the matriculates of the session of 1892–93.

7. That each college in this Association be assessed annually the sum of $5 to defray necessary expenses.

The three first propositions were adopted without discussion and with apparent unanimity. The fourth, however, relating to a standard of preliminary education for matriculation in a medical college, elicited a free interchange of views, during which it became apparent that several delegates representing Southern and Southwestern colleges thought their respective institutions not quite prepared to enforce such a rule. No one claimed that a good general education was not exceedingly desirable as a preparation for commencing the study of medicine, but it was feared that its positive requirement would so far diminish the aggregate number of medical students as to leave some of the colleges without adequate support; or the greater fear that some colleges would not enforce the requirement and thereby fill their halls at the expense of those that did so, in good faith.

All admitted that the proposed advance was desirable and must be made some time in the near future. This led to the suggestion that such colleges as desired a little time for further preparation be allowed two years before carrying all the requirements specified into practical effect, which was adopted as shown in the sixth proposition above. With this concession the requirements specified for matriculation, and all the other propositions, were adopted without further opposition, and in a spirit of harmony that portends the most gratifying results. It was evident from casual expressions that a large proportion of the delegates present were authorized to pledge their respective colleges to comply with the several propositions as adopted by the Association, but as others disclaimed having such authority, the Secretary was instructed to send a copy of the proceedings of this meeting to all the medical colleges in the country, asking them to indicate their sanction of the several propositions adopted, and their coöperation as members of this College Association.

When it is remembered that not less than fifty of our medical colleges, including many of the oldest and most influential in the country, are already practically fulfilling all the requirements proposed, and that the laws in several States are such that a diploma from colleges not complying with these requirements, will not procure for its possessor even an examination for a license to practice, it must become evident to all that in less than five years, the medical college that continues to grant diplomas after attendance on two repetitional courses of lectures and no preliminary requirements will find its halls deserted, notwithstanding the cheapness of the honors it confers. The present movement for a more general advance is made in a spirit of harmony and moderation, and it is hoped that it will be favored by every medical college possessing the elements of vitality and the necessary facilities for medical teaching.

THE ANNUAL MEETING AT NASHVILLE.

We only had time, in the last issue of THE JOURNAL, to refer to the opening session of the Forty-first Annual Meeting, and to make a brief reference to the President's Annual Address.

The interest in the following morning sessions was maintained to the last. The special addresses delivered by Drs. DAVIS, CARROLL and LOGAN were timely, able and well received. They are models of their kind, and will well repay the careful perusal which we are sure they will command. They will be found in full in the issues of May 24 and 31.

The usual routine of business was promptly dispatched, and it was evident on all hands that the general welfare of the Association was the chief concern of those who participated in the proceedings. Several important resolutions were introduced, to which at later dates we shall have occasion to refer.

In the Sectional work, which controlled the time and labor of the members during each of the afternoons, large numbers of papers were presented, representing much valuable material which will constitute a most desirable contribution to the Original Department of THE JOURNAL during the current year. The wisdom of creating special Sections for special work was never more noticeable than at this meeting, and the Chairmen and Secretaries are entitled to very great credit for the perfect arrangements of their programmes and for the precision with which their work in the Sections was conducted.

It is obvious that the essential value of the Association to the membership in the future will largely depend upon the wisdom and efficiency with which the Section programmes are prepared. We can hardly commend this fact too strongly to the attention of the officers of the various Sections for the ensuing year.

The election of DR. WM. T. BRIGGS, of Nashville, was a well deserved tribute to himself, to his city, and to the profession which he so worthily represents.

Perhaps never in the history of the Association have there been such delicate and appropriate expressions of hospitality as were accorded to the physicians and their ladies by the ladies of Nashville; and while they were in every instance most royally bestowed, it is a most commendable fact that the entertainments were so arranged as not to interfere with the working hours of the Association. This was a feature which we not only endorse in the strongest terms, but we suggest that it be permitted to govern in all future arrangements for our medical meetings. We are confident that our medical men and their ladies will long hold in pleasant remembrance the Annual Meeting at Nashville.

MEDICAL MEN IN THE CORONER'S OFFICE.

The intelligent physicians and jurists of Denver have been led to the formation of a medico-legal society, as a partial corrective of the coronerial status in Colorado. As in many another State, the office of Coroner is more political than scientific; no medical qualifications are essential; no post-mortems need be held unless the Coroner shall so ordain, and the rules of the County Commissioners aim rather at a cheap administration of the office than at a satisfactory rendition of the causes of sudden death, whether they be or not of a suspicious or obscure character. Nearly every young community must struggle along for years in a contention with flimsy and inadequate laws, with a miserly policy of reimbursing those who do the scientific work in inquest cases, and with the non-recognition of medicine in civic organizations. The idea that physicians have any official importance in the commonwealth is always a backward product. In Denver the conditions are probably no worse than in many an older community, but its people are more alert in regard to the causes of sudden death, in part, because they have more of them. The Medico-Legal Society of that place was recently addressed by DR. J. T. ESKRIDGE for the purpose of suggesting a remedy for inadequacy in the public records pertaining to violent deaths. His remedy consists in the appointment of a consulting physician to coöperate with the Coroner, and to draw a fair salary as a county official; he it is, and not the Coroner, who shall decide upon the question of holding autopsies and the extent to which the investigation should be carried in difficult and mysterious cases. This suggestion was adopted by the society and a committee was appointed to see what practical steps can be taken to secure the creation of the office of medical consultant to the Coroner. This was little other and better than a compromise result, since there was a strong expression of opinion on the part of the members that the true solution of the difficulty resided in the selection of a physician, and not a layman, for the Coronership itself. If the law could be so framed as to make trained medical men alone eligible to the office of Coroner there would be no necessity for having two officials, as implied in the proposition of Dr. Eskridge. But ordinarily there are political reasons why a layman would commonly have the preference over the physician, no matter how well qualified and trained, and a law is necessary to show the people that their best protection against certain dangers to life and to the miscarriage of justice is to be found in putting a higher value than is generally done on the physician's responsibilities and almost constant usefulness in public affairs, where life and death are among the factors to be considered. It is proper to say here and to repeat in public, whenever our words can give a healthful impetus to the reflections of good citizens, that the experience of the world has been that a good and thorough lay Coroner is the exception and not the rule, while an inefficient medical man in that office has hardly ever been known. Of course, in the older countries of Europe, there have been ample chances to judge between the two classes of officials just referred to, and there is abundant testimony to prove the clear title which vests in the medical man for fitness for, and an almost invariably satisfactory performance of, the office of the "Crowner's quest."

EDITORIAL NOTES.

THE ACADEMY OF MEDICINE.—The old New York Academy building has been sold to a library association for $60,000, or $20,000 less than was expected to be realized. The new Academy is rapidly approaching completion, but it will require three or four months to bring about the removal and the re-organization.

NEW HAMPSHIRE MEDICAL SOCIETY. — The ninety-ninth annual meeting will be held in Concord, Monday and Tuesday, June 16 and 17, 1890, at the hall of the G. A. R., 15 Warren street, commencing at 11 o'clock A. M. There will be a meeting of the Council on Monday evening, June 16, 1890, at the hall of the G. A. R., at 7 P. M. As this meeting is designed to consider all questions relating to ethics or new business, and to attend to all applications for membership, it is hoped there will be a full attendance of the Councillors. All members having business or papers to present to the Society must bring them in person, or forward them to the Secretary in season for this meeting. All applications for membership must be made to the Secretary prior to this meeting, giving full name and place of business, when and where graduated, and, unless personally known to one or more members of the Council, the applicant should forward a recommendation from some member of the Society. Members of District Societies will be admitted on a certificate of membership from the President or Secretary of the District Association. This meeting will be called to order promptly, in order that members of the Council may complete their work in season to attend the reception given by the management of the New Hampshire Asylum for the Insane and the Board of Commissioners of Lunacy.

THE PASTEUR INSTITUTE AT NEW YORK.— Dr. Gibier of this institution reports that the number of persons admitted for treatment, in March and April, was 20, of whom thirteen were received in March.

CURIOUS CASE OF CATALEPSY.—The Paris correspondent of *The Lancet* relates the following curious case as having occurred at Dunkirk on April 14, and as "showing the utility of catalepsy." A young girl of 17 years was seized with a violent attack of epilepsy, and fell on the above date into a canal. A boatman immediately jumped into the water to save her, and brought her to shore after twenty minutes. The most singular circumstance connected with the accident is that when the young girl was taken out of the water she presented all the symptoms of catalepsy; and notwithstanding this long immersion, she was resuscitated, and nothing afterwards transpired to cause any anxiety.

THE AUSTRALIAN RABBIT PEST.—*The Lancet* says: The final report has been issued of the Royal Commissioners in New South Wales on the result of the schemes received in response to their proclamation of August, 1887, offering a reward of £25,000 for any method for the effectual extermination of rabbits. The schemes were very numerous, and suggested various methods. The commissioners advise that when necessary the State should advance to lessees of Crown lands and occupiers of land the cost of netting fencing on certain conditions; but they have found no evidence to warrant the belief that any known method can exterminate rabbits.

MEDICAL SOCIETY OF WEST VIRGINIA.—The twenty-third annual meeting will be held at Wheeling, W. Va., June 11, 12 and 13, 1890. The Committee of Arrangements is making special preparations for the entertainment of members and guests.

THE INTERNATIONAL MEDICAL CONGRESS AT BERLIN.—In the Section of Pharmacology, a discussion on Anæsthetics will be opened by Dr. Lauder Brunton, and one on the Pharmacopœia question by Dr. Langgaard. Addresses will also be delivered by Professors Binz, Böhm, Brackett, and Liebreich. A *souvenir* of the meetings will be presented to the members of the section in the form of a "conspectus" of all the German essays on experimental pharmacology which have appeared during the last twenty-five years.

CREMATION.—The sixth meeting of delegates from the various cremation societies will meet at Berlin from August 4th to 6th. The following is the programme as at present arranged: Report on the position of legislation with regard to cremation in different countries; the conditions of transport of dead bodies on railways in Germany and elsewhere; discussion on the best kind of cremation chamber, and the results by experience in different countries.

THE LATE PROF. DAMASCHINO.—The friends and pupils of the late Prof. Damaschino have opened a subscription to meet the cost of placing his bust in the Examination Hall of the Faculty of Medicine, Paris.

LEPERS IN INDIA.—At a recent meeting in London it was stated that the official statistics estimated the total number of lepers at 135,000.

TOPICS OF THE WEEK.

TRIBUTE TO THE MEMORY OF THE LATE DR. BYFORD.

The Obstetrical Section of the American Medical Association, in session at Nashville, Tenn., May 22, 1890, on hearing of the death of Dr. W. H. Byford, of Chicago, resolved to inscribe upon the records of the Section the following tribute to his memory:

In the midst of our deliberations while here assembled in the interest of our noble profession, the death-knell has sounded, and as we listen there comes to us the sad message that a noble life is suddenly ended. The shaft that represents a grandly developed character had risen in its symmetry and in its beauty to unwonted proportions until it had reached its full development. The finial stone is laid, and it stands complete.

William Heath Byford, one of the Vice-Presidents of this Association, a Chairman of our Section, for more than a third of a century a most distinguished teacher of gynecology, whose writings are text-books, and whose name and fame are National, is dead.

Pausing in the midst of our deliberations and bowing reverently and submissively to the mandate that has summoned him away, we desire to inscribe upon the pages of our proceedings the record of our grief.

We would lay upon that silent casket a wreath of *immortelles* expressive of his worth; we would strew upon that open grave the choicest flowers as a tribute of our affection; we would mingle our tears with those who weep in the expression of a common sorrow.

Formal resolutions are idle in the expression of our grief. We inscribe upon our records the heartfelt tribute which we would pay to that pure and noble life which will ever be cherished in grateful remembrance, and we direct that a copy of this expression be forwarded by the officers of our Section to the family which mourns such an irreparable loss.

FRANKLIN H. MARTIN,
THAD. A. REAMY,
J. G. MEACHEM.

THE NEW PHONOGRAPH OF EDISON AS A UNIVERSAL ACOUMETER

Dr. L. Lichtwitz, of Bordeaux, proposes the employment of Edison's new phonograph as the universal acoumeter (*Annales des Maladies de l'Oreille*, October, 1889). At present the three tests of hearing are the watch, the tuning-fork, and the human voice. The first-named is very poor, the last-named is the best. The characteristics of a good acoumeter are then given as follows:

1. The acoumeter should be able to emit all the sounds perceptive by the normal human ear, especially speech in all its inflections.

2. It should be a constant source of sound in order to facilitate a comparison of hearing in different patients, and in the same patient at different epochs of his disease.

3. It should be an apparatus of uniform construction, in order to render its employment universal among aurists of all countries and make the registration of audition easily comprehensible, as the ophthalmologists can do in regard to vision.

4. Its employment should be easy, without requiring too much time or space for its use.

5. It should render possible the measurement of the sharpness of the hearing both by aërial and cranio-tympanic conduction.

The new phonograph of Edison possesses, if not all of these qualities, at least the first two, which are indispensable in a good acoumeter, and it is said to be possible, by some modifications, to give this instrument all the desired qualities of a perfect acoumeter.—*Amer. Jour. Med. Sciences.*

IS LEPROSY CONTAGIOUS?

Under this heading (*Monatshefte fur praktische Dermatologie*, October 1, 1889) Prof. Smirnoff, of Helsingfors, refers to the diametrically opposite views put forth by two authorities, Hansen, of Bergen, and Zambaco, of Constantinople. The former expressed himself, at the International Medical Congress in Copenhagen, in 1884, in favor of the contagiousness of the disease, while the latter stated that he had never observed a single instance in proof of contagion. Smirnoff cites the case of a married woman affected with anæsthetic ulcerative leprosy, who had lived with her husband for fifteen years without having communicated the disease to him. Two children were born during a period when the disease seemed to be progressing, both of whom were still healthy at the age of one and two years respectively. The author thinks that this case speaks in favor of Zambaco's and against Hansen's views, and that leprosy is neither contagious nor inheritable.—*Am. Jour. Med. Sciences.*

RELATION OF PHYSICIANS AND DRUGGISTS.

The relation of physicians and druggists, though not so strained as in the days of Sir Samuel Garth, the great London physician who wrote the well-known poem, "The Dispensary," which covered the apothecaries with ridicule, is to-day a question worthy of serious consideration. Then, as now, the druggists to whom the physicians send their patients and prescriptions, are constantly prescribing for these patients, and in many ways injuring the business which belongs to the educated physician, and at the same time maltreating the confiding customers. While I would not advise the organization of physicians to oppose and condemn the druggists, as was done in the latter part of the seventeenth century, yet I do advise every young physician to acquire the habit of dispensing, as far as possible, his own medicines. This is made very easy in these times by the elegant preparations which are sent to us, already compounded by the manufacturing pharmacists; and is also facilitated by the greatly reduced quantity of medicine which is now given. In urging this method upon the young physicians of to-day, I am also speaking in the interests of our patients, whose welfare, both physical and financial, should always be uppermost in our minds. Even the medicine which would cost the physician but a few cents, and could be administered immediately, were the doctor his own dispenser, will cost the poor patient, who takes the prescription to a drug store, a dollar or more, and cause delay, sometimes for hours, in the administration of the needed drug. Those of us who have, in years of practice, acquired the almost unconquerable habit of writing prescriptions, should see to it that our patients are sent to druggists who are both honorable and educated, and who will not try to substitute their own advice for that of the physician.—*Occidental Med. Times.*

THE WORLD'S FAIR.

In May, 1893, the World's Fair will open in Chicago. Knowing the enterprise, energy and ambition of the citizens of that metropolis, we may reasonably expect it will prove to be the most notable exposition the world has ever seen. This Society should do something to give the visitors at that great Fair a comprehensive idea of the climate of California. Two plans have suggested themselves: 1. To have a large papier-maché model of the State, giving the observer at a glance an idea of our physical geography; showing forests, water-courses, altitudes, and game—showing our health resorts at altitudes of from below sea level, at Indio and Salton, to 10,000 feet above. 2. To offer a prize of $500 for the best article, equivalent to not over 50 pages 12mo, printed matter, descriptive of the climate of California. There would be no trouble in raising money to have such an essay published by the 10,000 copies. It should be as reliable as Euclid, and as entertaining as Don Quixote.—*Occidental Med. Times.*

INTESTINAL DISEASES OF INFANTS.

In an interesting article published in the *Archives of Pædiatrics*, May, 1890, Dr. W. S. Christopher, ably advocates the theory that all the so-called summer complaints are due to ptomaine poisoning. The following is a summary of his conclusions:

1. Various forms of abnormal fermentation occur in the bowels, and when they occur in infants, and produce symptoms, they constitute the immediate cause of the collection of diseases known as summer complaint.

2. Summer complaint so defined includes putrefactive constipation and all forms of diarrhœa and dysentery not diphtheritic in origin nor symptomatic of septicæmia.

3. The three great predisposing causes of summer complaint, viz., hot weather, overcrowding, and bottle-feeding, are to be regarded as acting solely as adjuvants to fermentation.

4. The diet during summer complaint should be determined entirely by the conditions within the bowels, and not by theoretical ideas as to Nature's food.

5. At least two well-marked forms of abnormal intestinal fermentation may be recognized clinically, viz., the putrid and the acid.

6. In the putrid fermentation, carbohydrates should constitute the food, and in the acid form albumen should be the only food.

7. Milk, containing, as it does, both proteids and carbohydrates, should be prohibited in all forms of intestinal fermentation. If properly sterilized, other food can be given; nursing babies with severe summer complaint should be taken from the breast.

8. All food administered, of whatever type, should be aseptic.

9. In addition to regulating the diet on the foregoing principles, the treatment should include laxatives and intestinal antiseptics.

10. The lesions are to be regarded as the results of the fermentation, and are more marked in proportion to the duration of the disease.

11. The lesions assist in prolonging the disease, and in all probability act by providing a habitat for the micro-organisms, and by their secretions furnishing the germs with material with which to maintain their biological activity.

12. In chronic cases, where well-marked lesions may be supposed to exist, lavage of the large intestine and of the stomach, with appropriate antiseptics, is indicated.

13. Opium is contraindicated except in persistent acid fermentation which threatens to produce anatomical lesions.—*Medical News.*

OCULAR COMPLICATIONS IN INFLUENZA.

In the February number of the *Recueil d'Ophthalmologie* Dr. Galezowski describes two forms of ocular affection which have been seen by him. In the one the conjunctiva is alone attacked, and the symptoms usually come on at the commencement of the disease. There is pain around one eye, and the lids feel heavy and tend to droop involuntarily, as if the patient were sleepy. Lachrymation and photophobia are frequently present, and the vision fails after a few seconds on attempting to read. In the morning the lids adhere, but there is not much secretion. The vessels of the sclerotic are distended, but the pupil acts perfectly. The author attributes these symptoms to neurosis of the fifth nerve. The other class of case presents a more serious complication, for in it the cornea becomes superficially ulcerated over a large area of triangular shape, the base being towards the circumference, and the apex reaching to the centre of the cornea. The ulcerated area becomes completely anæsthetic, while there is hyperæsthesia of the adjacent corneal tissue. The ulcer tends to increase in size but not in depth. The complication appears late, often during convalescence; the prognosis appears to be favorable. This complication would also seem to be due to some abnormal condition of innervation.

BICYCLING FOR YOUNG PEOPLE

Dr. B. W. Richardson discusses this subject in a recent issue of the *Æsclepiad.* He admits that since he first warned the public of the dangers of immoderate cycling changes have taken place in the construction both of bicycles and tricycles which materially modify the old drawbacks. He is still, however, of the opinion that cycling should never be practiced by boys and girls, since it differs from other exercises in the fact that it molds the bodily framework, as it were, to its own mode of motion; and riders in course of time almost invariably acquire what he calls "the cyclist's figure," which is not graceful and indicative of the possession of perfectly balanced powers. Of two things, at least, he is satisfied. They are that the temptation of competition is to an earnest and practiced cyclist a "demon of danger," and that the systematic pursuit of cycling should never be fully commenced before the age of twenty-one.—*Weekly Med. Review.*

HYPNOTISM AND SUGGESTION.

Prof. Bernheim, of Nancy, gave an interesting demonstration at the Hôtel Dieu, in Paris, a few days ago, of the possibility of suggestion without previous hypnotism. The experiments were performed in the presence of many leading members of the medical and legal professions and several distinguished literary men. Prof. Bernheim was able to elicit from patients, to all appearance in the full possession of their senses, confessions of imaginary crimes, which were confirmed by the suggested testimony of other subjects. He is said to have made them weep or laugh as he bade them, and to have struck them dumb or motionless at will, playing on their nervous system as on an instrument. It is comforting to be assured by Prof. Bernheim that the number of persons whose "stops," as Hamlet says, can thus be governed is exceedingly limited. Possibly when the proceedings are reported in the dry language of science the thaumaturgic element will be less obtrusive than it is in the accounts which have appeared in the lay press.—*The Lancet.*

AMERICAN MEDICAL ASSOCIATION.

Forty-first Annual Meeting, held at Nashville, Tenn., May 20-24, 1890.

General Session.—Third Day.

The President called the Association to order at 10 A.M.

Prayer was offered by Rev. Mr. Cave.

Dr. Briggs presented several communications relative to the business of the day.

Dr. Eugene Grissom, N. C., read the report of the Committee on Nominations, as follows:

For President—Wm. T. Briggs, of Tennessee.

First Vice-President—C. A. Lindsley, of Connecticut.

Second Vice-President—R. C. Moore, of Nebraska.

Third Vice-President—H. C. Wyman, of Michigan.

Fourth Vice-President—L. P. Gibson, of Arkansas.

Treasurer—Richard J. Dunglison, of Pennsylvania.

Permanent Secretary—William B. Atkinson, of Pennsylvania.

Librarian—C. L. Richardson, of District of Columbia.

Trustees of Journal—J. B. Hamilton, District of Columbia; J. V. Shoemaker, Pennsylvania; D. E. Nelson, Tennessee.

Judicial Council—X. Z. Scott, O.; W. F. Peck, Ia.; J. A. Lane, Kans.; J. H. Murphy, Minn.; T. J. Happel, Tenn.; D. J. Roberts, Tenn.; A. Garcelon, Me.

Committee on State Medicine—Ala., Jerome Cochrane; Ark., T. E. Murrell; Cal., W. F. McNutt; Col., P. V. Carlin; Conn., G. H. Pierce; Dak., F. J. Kenyon; Del., L. P. Bush; D. C., J. B. Hamilton; Fla., F. H. Caldwell; Ga., —— Bullard; Ill., H. A. Johnson; Ind., F. W. Beard; Ia., G. F. Jenkins; Kans., W. L. Schenck; Ky., J. N. McCormack; La., J. H. Bemis; Me., T. A. Foster; Md., G. H. Rohé; Mass., S. W. Abbott; Minn., P. H. Millard; Mich., H. B. Baker; Miss., Wirt Johnson; Mo., E. W. Schauffler; N. C., J. H. Tucker; N. J., D. Benjamin; N. Y., E. M. Moore; New Mexico, F. H. Atkins; Neb., J. R. Hazzard; Ohio, N. R. Coleman; Oregon, W. D. Baker; Pa., W. T. Bishop; R. I., H. R. Storer; S. C., Grange Simons; Tenn., J. H. Callender; Texas, T. R. Briggs; Utah, F. S. Bascom; Vt., E. R. Tampbell; Va., H. F. Nelson; W. Va., S. L. Jepson; Wis., B. O. Reynolds; Wash., J. T. Willsey; U. S. A., F. C. Ainsworth; U. S. N., T. Wolverton; U. S. Mar.-Hosp., W. Wyman.

On Necrology.—Ala., J. T. Searcy; Ark., R. G. Jennings; Cal., Winslow Anderson; Colo., W. H. Hawkins; Conn., W. A. M. Wainwright; Dak., F. M. Crain; Del., L. P. Bush; Fla., F. Stuyer; Ga., R. H. Cortelyou; Ill., E. P. Cook; Ind., J. F. Hibberd; Ia., D. W. Crouse; Kans., Levi Horner; Ky., Wm. Bailey; La., J. R. Mattis; Me., A. J. Fuller; Md., D. Street; Mass., H. A. Morley; Minn., W. W. Mayo; Mich., W. B. Alvord; Miss., B. F. Kittrick; Mo., J. M. Jordan; N. C., C. J. O'Hagner; N. J., H. P. Hough; N. Y., N. Jacobson; New Mex., L. Kennon; Neb., D. C. Bryant; Ohio, S. P. Deahofe; Oregon, —— Shackelford; Pa., T. W. Shaw; R. I., —— Chapin; S. C., A. A. Moore; Tenn., C. F. Sim; Texas, W. P. Burts; Vt., M. R. Crain; Va., L. B. Edwards; W. Va., —— Barber; Wash., N. G. Essig; Wis., J. G. Meacham; U. S. A., C. R. Greenleaf; U. S. N., I. W. Ross; U. S.-Mar.-Hosp., F. Irwin.

E. L. Shurley, of Michigan, *Address on General Medicine.*

Joseph M. Mathews, of Kentucky, *Address on General Surgery.*

W. L. Schenck, of Kansas, *Address on State Medicine.*

Place of meeting in 1891, San Francisco, Cal. *Time*, first Tuesday in May.

Dr. H. O. Walker, Michigan, moved to amend the report by striking out San Francisco, and inserting Washington, D. C.

Dr. C. Gapen, Nebraska, moved to amend by inserting Omaha.

After some discussion, Dr. E. Grissom called the previous question, which was seconded by twenty members.

The vote being taken on Omaha, it was negatived by 53 to 150.

The vote was then taken on Washington, it was agreed to by a vote of 275 to 10.

The report was then adopted as amended.

Dr. Reyburn then nominated Dr. D. W. C. Patterson as the Chairman of the Committee of Arrangements, and Dr. C. H. A. Kleinschmidt as Assistant Secretary.

Dr. Samuel Logan, of Louisiana, then read the *Address in Surgery.* (See page 773.)

On motion of Dr. Brodie, the thanks of the

Association were tendered to Dr. Logan for his able Address, and a copy was requested for publication.

Dr. E. A. Wood, of Pa., then read the Report on Dietetics. This was followed by the report of the Secretary of the Committee, Dr. Woodbury, Pa. He offered in conclusion, a resolution that the word physiology be stricken from the Section 1, and a new Section, entitled the Section on Dietetics and Physiology be formed.

The report was adopted and the amendment laid over till next session as required by the By-laws.

Dr. P. H. Millard, of Minn., presented a Report of the work done by the National College Organization. He offered the resolutions as adopted almost unanimously by the College Association.

1. That the colleges represented in this Association adopt three graded courses of not less than six months each, no two courses to be given in the same year.
2. That both oral and written examinations be required of all students.
3. That laboratory instruction in chemistry, histology and pathology be required.
4. That the colleges belonging to this Association demand the following examination of all applicants for matriculation: 1. A composition in English of not less than 200 words. 2. The translation of easy Latin prose, or, in lieu thereof, an examination in either German, French or Scandinavian languages, provided that students be allowed one year to make up any deficiency in this part of the examination. 3. An examination in higher arithmetic. It is provided, however, that candidates who are graduates or matriculates of recognized colleges of literature, science and art, or of normal schools supported by the different States, are to be exempt from the provisions of this examination.

On motion of Dr. J. V. Shoemaker, of Penna., the Association accorded a hearty approval of the report and resolutions.

Dr. S. P. Moyer, of Ill., offered the following:

Resolved, That at future meetings of this Association the business of the general sessions shall be conducted from the floor of the house, and no one occupying a seat on the platform shall be recognized by the President, excepting the Secretary; providing, however, that nothing in this resolution shall be construed as preventing the Chairman from inviting members to address the Association from the platform.

A motion to lay the resolution on the table was negatived.

Dr. N. S. Davis offered to amend by adding the Chairman of the Committee of Arrangements, which was adopted by the mover of the original resolution.

After some further discussion it was adopted.

Dr. Comegys, of Ohio, was allowed the floor to explain his action of yesterday. The President acknowledged that he had misunderstood his remarks, and asked him to restate his motion. After explanations by Dr. Shoemaker and others, Dr. Davis demanded the order of the day.

The President announced as the Committee on his Address, as ordered by special resolution, Drs. W. L. Schenck, Kans.; Benj. Lee, Penna.; T. B. Evans, Md.; E. Grissom, N. C., and H. B. Baker, Mich.

On motion of Dr. Davis the Association adjourned till 10 A. M. on Friday.

FOURTH DAY.

The President called the Association to order at 10 A. M.

Prayer was offered by Rev. Dr. Lofton.

The Permanent Secretary read a number of announcements relative to the railroads, etc.

Dr. Carroll being absent, on motion of Dr. Brodie the *Address on State Medicine* was read by title. (See page 754.)

The list of delegates abroad was read by the Permanent Secretary, and will be published in an early issue of THE JOURNAL.

On motion of Dr. Brodie the President and Permanent Secretary were authorized to appoint additional delegates to the Tenth International Medical Congress and the British Medical Association and the Canadian Medical Association.

Dr. Shoemaker inquired if all those named were members in full standing of this body. Time did not allow of the present examination of the roll of members, and therefore he moved that credentials be issued only to such as appeared on the list of membership. Carried.

On motion of Dr. Brodie it was resolved,

That at the next meeting of the Association, to be held in Washington the first Tuesday in May, 1891, the Chairman of the Committee of Arrangements is hereby instructed to have tickets of admission to the first two meetings prepared, which shall be given the members upon the payment of his annual dues, the same to be shown at the door to a person appointed for that purpose.

Dr. Woodbury suggested that tickets of a different color be issued to the delegates who alone have a right to vote, and that a part of the hall be set aside for them. After some discussion this proposition was rejected.

Dr. Brodie offered a resolution prohibiting the placing of books and other advertising sheets on the seats, when Dr. J. H. Hollister offered the following, which was accepted by Dr. Brodie:

WHEREAS, Certain parties without authority are presuming to make use of this Association for the furtherance of advertising interests, therefore

Resolved, That at all future meetings of the Association such publications be excluded from the place of meeting either of the General Sessions or of its Sections.

Resolved, That in the future each Chairman of the Committee of Arrangements be directed to procure a copyright of the Official Programme, to the end that the financial rights of the Association may be protected by due process of law.

This was unanimously adopted.

Dr. J. C. Culbertson, of Ohio, offered the following amendment to the by-laws:

That the State and Geographical District Societies in affiliation at this time with this Association, having a membership of one hundred or more, shall be recognized as branches of the American Medical Association.

That all members of said societies enjoy all the rights and privileges now accorded the delegates.

Resolved, That the said organizations be overtured, through our Permanent Secretary, to take such action as will enable them to concur in these suggestions.

Dr. Hollister moved that it lie over for action at the next meeting. Adopted.

Dr. W. H. Daly, of Penna., offered an amendment, as follows:

That in future the permanent members have all the rights of delegates.

Laid over.

Dr. J. M. Toner, of D. C., offered the following:

WHEREAS, It is fitting that the American Medical Association should take proper notice of the Centennial of the Discovery of Vaccination, by Dr. Jenner, as a protection against small-pox, which will occur in a few years; therefore, to the end that due and timely consideration be given to the subject,

Be it resolved, That the President of this Association be empowered to appoint a committee, to consist of one physician of recognized ability from each State and Territory of the United States, to consider the whole subject and report a practical scheme which shall bring the century of the practice of vaccination in this country under review, and in such study secure the expression and coöperation of the medical profession residing in every part of our country, old and new, and report, with recommendations as to the scope and methods to accomplish this, to the next meeting of this Association, for its consideration and adoption.

The resolution was seconded by Dr. N. S. Davis and unanimously adopted.

Dr. I. N. Love announced the death of Dr. Jackson, First Vice-President, and on his motion the President appointed the following committee to take suitable action: Drs. I. N. Love, J. B. Hamilton and W. Brodie.

The committee reported as follows:

Resolved, That the American Medical Association desires to express its great sorrow in the knowledge of the death of its First Vice-President, Dr. John W. Jackson, of Missouri.

That the sympathy of the Association is extended to his family.

(Signed) I. N. LOVE,
J. B. HAMILTON,
W. BRODIE.

The resolutions were adopted.

The Permanent Secretary read the following:

E. M. MOORE, PRESIDENT AMERICAN MEDICAL ASSOCIATION.

Dear Doctor:—Finding myself so circumstanced as to be unable to give that attention to the publication of THE JOURNAL of the Association which I deem it is proper a Trustee should do, I therefore feel constrained to request that my resignation of the responsible position of Trustee be accepted. Very respectfully,

J. M. TONER.

On motion of Dr. Brodie the resignation was accepted.

Dr. Brodie moved that the vacancy be filled by Dr. E. M. Moore, of N. Y., the retiring President.

Dr. J. F. Hibberd, of Ind., was also named.

After some remarks a vote was taken by the Permanent Secretary, and he announced that Dr. Moore had been elected.

The following action of the Tennessee State Druggists' Association was read:

TO THE AMERICAN MEDICAL ASSOCIATION.

Gentlemen:—The Tennessee State Druggists' Association has delegated us to present to your honorable body a question, the importance of which to your profession, as well as ours, can hardly be overestimated, and we place it before you with the hope that it may receive at your hands the weight it merits.

The resolutions adopted by the Tennessee Druggists' Association are as follows:

Resolved, That a committee of three be appointed to lay before the American Medical Association the great and growing evil of prescribing secret and proprietary preparations by many members of the medical profession; that many of such preparations are glaring frauds, the formulæ often stated on the labels are misleading, if not fictitious, and that all such preparations should be classed as secret proprietary, or patent medicines, and that the American Medical Association be petitioned to declare it against its code of ethics for any member of that body to prescribe any such preparation; that the Association be requested in every possible way to discourage their use, as in prescribing these nostrums the medical practitioner is really playing into the hands of quackery, thus teaching his patient to dose himself, and that the use of such nostrums is utterly unscientific and unbecoming a profession striving after exact methods, is unworthy our age, and against the best interest alike of the professions of medicine and pharmacy, as well as their patients and patrons.

While these resolutions might suffice, we trust a few words in explanation will be allowed. It may be needful to emphasize a few facts possibly overlooked by the busy practitioner.

Have you ever given the published formulæ of these preparations serious thought? Say listerine, a very popular proprietary remedy, the claim of its composition, *benzo boracic acid*, *mentha avenis*, etc.?

Now, benzo-boracic acid has no existence, and for a solution of boracic acid, flavored, is it right that you should make the druggists charge one dollar per bottle? Has it never occurred to you that a solution of boracic acid would do all that listerine ever did? Or, for instance, have you given the published formula of bromidia due consideration? Can extract canabis indica be held in solution in an aqueous nostrum? Would not a solution of chloral and potassium bromide, in the proportions indicated, always serve the purpose? Also, is not pinus canadensis, colorless, simply a solution of sulphate of zinc? Tasteless syrup of quinine, 2 grains to the teaspoonful? The label boldly lies to you, as it has been shown not to contain any quinine at all. But as the most perfect type of these fraudulent preparations let us present to you "Phosphorized Cerebro-Spinant, Freligh's Tonic, registered, copyright secured," and quoting its label: "Those familiar with the action of drugs know the homogeneous relation they bear to each other, how their *pathogenetic and curative spheres* are enlarged and dynamatized by a judicious combination." Can charlatanism go further, and should any doctor rely upon such statements? Yet many eminent physicians prescribe Freligh's Tonic; medical editors accept its advertisement and recommend it. The result is you are not getting what you purpose to prescribe, and form incorrect conclusions as to the therapeutic value of the remedial agents intended to be employed, are helping to undermine the very foundation of scientific medication, and aiding in building up a class of manufacturers whose methods are unscientific and unprofessional, and are endeavoring to obtain endorsement through fair means or foul. We fully appreciate that many of these preparations have been employed, if not thoughtlessly, as a matter of convenience and in good faith; yet you have at the same time given an impetus to self-dosing and taught your patient the use of many ready-made cures, many of which—as Fellow's Syrup, Pond's Extract, Horsford's Phosphates, etc.—are duly advertised not only in newspapers, street posters, etc., but also in prominent medical journals.

Yet, gentlemen, many eminent physicians and college professors have done much in extending this unwise and injurious practice of self-medication.

These few salient points are submitted for your earnest consideration. One State association has already taken a step in advance. At the last meeting of the State Medical Society of Arkansas, on motion the Committee of Arrangements was instructed to prohibit the exhibition of secret proprietary articles in connection with the meetings of this society.

Gentlemen, we leave this very important matter in your hands. Yours respectfully,

(Signed) AL. A. YEAGER,
STACEY LORD,
A. A. KLEINSCHMIDT,
Committee.

On motion of Dr. W. H. Daly, of Penna., the communication was received and ordered to be printed in THE JOURNAL, and the thanks of the Association sent to that body for bringing these important questions to our notice.

Dr. F. Woodbury, of Pennsylvania, presented the following:

Your Committee appointed to confer with a Commitee of the American Pharmaceutical Association, respectfully reports that it has performed the duty assigned to it, and recommends that the following resolution be adopted and the Committee discharged:

Resolved, That the words Materia Medica be taken from the title of Section I, and that a new Section be formed, to be entitled the Section on Materia Medica and Pharmacy, to have the same privileges as other Sections of this Association.

All of which is respectfully submitted.

(Signed) FRANK WOODBURY, Chairman,
G. E. FROTHINGHAM,
J. C. CULBERTSON.

On motion the report was adopted and the amendment to the laws adopted unanimously.

Dr. F. Woodbury was named as Chairman and Dr. W. G. Ewing, of Tennessee, as Secretary of the new Section.

The following from the Illinois State Medical Society was read:

Resolutions passed by the Illinois State Medical Society at the annual meeting held in Chicago, May 6, 7 and 8, 1890.

1. That at the World's Columbian Exposition to be held in Chicago in 1893, there should be such an exhibit as will represent the history and present status of the medical and allied sciences.
2. That this Society hereby requests the American Medical Association, as the largest and most representative organization of medical men in this country, to take the initiative and inaugurate such measures as will conduce to secure a creditable exhibit.

On motion, it was resolved that this Association will take action in accordance with these resolutions.

The Committee on Coroners reported as follow:

REPORT OF COMMITTEE ON CORONERS.

Your Committee appointed three years ago upon the revision of the coroner laws of the United States, beg leave to submit the following report:

That they have examined carefully the laws of the various States, and in their first published report, pointed out the great need of a revision of the entire system of laws regulating the interests so vital to the public which are in most of the States relegated to the Coroner. They also pointed out that too often the office was considered a political one, and as such was frequently held by persons utterly incompetent. That the system as generally practiced was one, in the present state of our civilization, neither economic of the public funds, or conducive to the higher ends of justice. They cited the experience in certain States, where for some years (Massachusetts and Connecticut for example), the entire system had been revised, the coroner office, as such, abolished, the legal functions placed under the care of properly educated men, and the medical duties relegated to specially trained experts, called *Medical Examiners*. Your Committee made a report of progress at the last annual meeting, and now would ask to submit the following recommendation for your consideration and approval:

Resolved, That the American Medical Association respectfully call the attention of the various State Boards of Health to the subject of a careful revision of the coroner laws, and be requested to take an active interest to secure such legislation as, in their judgment, may seem best to accomplish this purpose. HENRY O. MARCY,
W. W. DAWSON.

On motion, the report was accepted and the resolution adopted.

A motion to substitute State Medical Societies for Boards of Health was negatived.

A report on the President's Address was offered, but as no signature was attached, on motion of Dr. Brodie the subject was recommitted till next year.

The Permanent Secretary read the Report of the Treasurer:

REPORT OF THE TREASURER.

The Treasurer has the honor to report a balance in the Treasury of $4,703.20, as shown by the itemized statement which will accompany this report, and will be published at length in THE JOURNAL of the Association for the information of members.

All of which is respectfully submitted.

RICHARD J. DUNGLISON, Treasurer.

May 22, 1890.

On motion it was accepted.

Dr. Silas D. Presbrey, of Massachusetts, after an allusion to the work and long continuance in office of the Permanent Secretary, offered a vote of thanks to him.

Dr. Love moved to appropriate $500 as an honorarium.

After a statement by Dr. Toner that all such motions must be referred to the Board of Trustees of THE JOURNAL, Dr. Love withdrew the motion.

Dr. Wm. H. Daly renewed the motion, and to give $100. A motion to refer this to the Trustees was lost and the matter rested there.

The Permanent Secretary read the following as the Officers of the Sections as far as they had been reported:

Practice.—V. Vaughan, Michigan, Chairman; G. Dock, Tennessee, Secretary.

Surgery. — Theo. McGraw, Michigan, Chairman; J. B Deaver, Pennsylvania, Vice-Chairman; W. E. B. Davis, Alabama; Secretary.

Obstetrics.—No report.

State Medicine.—J. D. Plunkett, Tennessee, Chairman; C. A. Ruggles, California, Vice-Chairman; F. S. Bascom, Utah, Secretary.

Ophthalmology, etc.—Leartus Connor, Michigan, Chairman; T. E. Merrill, Arkansas, Secretary.

Otology, etc.—No report.

Diseases of Children.—W. Perry Watson, New Jersey, Chairman; H. A. Hare, Pennsylvania, Secretary.

Medical Jurisprudence, etc.—No report.

Dermatology, etc.—L. D. Bulkley, N. Y., Chairman, W. T. Corlett, Ohio, Secretary.

Oral Surgery.—No report.

On motion the Secretary was directed to communicate with these Sections, and obtain the names of their officers.

Votes of thanks having been offered by several members, on motion of Dr. J. V. Shoemaker, of Penn., it was

Resolved, That the American Medical Association wishes to express its high appreciation to the Chairman of the Committee of Arrangements, and to the profession of Nashville, for the efficient arrangements during the meeting of the Association in their city.

Resolved, That the Association tender thanks and warm appreciation especially to Dr. W. T. Briggs and Mrs. Briggs, Dr. and Mrs. Richardson, Mr. and Mrs. Wilson, Mrs. Polk, Prof. and Mrs. Hancock, Mrs. Connelly, Mrs. Watkins and sister, General Jackson and the ladies Committee, and the citizens of Nashville, for their cordial reception and handsome entertainments given to the members of the Association.

Resolved, That we return thanks to the newspapers, the Clubs of Nashville, and the railroad companies of Nashville, who so generously extended their courtesy to our members.

In addition to such sentiments, Dr. Moore, the retiring President, said: "The wives and daughters of the members of the American Medical Association, who have visited Nashville at the present time, desire through me, to express their heartfelt thanks for the unbounded hospitality of which they have been the recipients at the hands of the ladies of this beautiful city. The charming grace with which this has been dispensed will ever remain as one of our most delightful memories."

Dr. N. S. Davis eloquently joined in the tribute to the ladies and the profession of Nashville, and the resolutions were adopted amid great applause.

The retiring President then introduced the President-elect, Dr. Wm. T. Briggs, who in a brief address expressed to the members his high appreciation of the honor they had done him.

On motion of Dr. Brodie the thanks of the Association were given Dr. Moore for his performance of the duty of President.

The President then declared the Association adjourned until the first Tuesday of May, 1891.

WILLIAM B. ATKINSON,
Permanent Secretary.

FOREIGN CORRESPONDENCE.

LETTER FROM LONDON.

(FROM OUR OWN CORRESPONDENT.)

Dr. Bernheim and Hypnotism—Somnal—Ambulance Service—Dr. Gervis on Puerperal Fever—The Leprosy Committee.

The event in the scientific world is Dr. Bernheim's demonstration at the Hotel Dieu, that suggestion does not depend on hypnotism. Dr. Bernheim heads the Nancy school as opposed to the Paris or Charcot school. He experimented in the presence of most of the medical staff, the leading judges d'instruction, advocates, and of M. Dumas *fils*, who came to see to what degree his father's intuitions would be borne out. None of the patients knew anything of Bernheim nor had any idea why he came among them. Each set was taken in a different ward from the other. The Nancy scientist who first discovered this power in a common man, made suggestions to the patients in a state of natural sleep, and then to waking ones. Without trying to hypnotize them he was able to strike them dumb, to paralize their limbs, to make them weep, go into fits of laughter. What chiefly interested the legal part of the audience was the evidence the subjects gave as to imaginary events in which belief was suggested. They were circumstantial, consistent, and not to be shaken. Dr. Bernheim's power has, however, decided limits. It has no action on persons in a thoroughly healthy state.

Sleepless humanity has of late received an inordinate share of attention from inquirers of the therapeuto-pharmacologist class, and the number of hypnotics now before the profession is so great that the old-fashioned maxim "If you can't cure the man, put him to sleep," ought to be a comparatively easy matter, if an ample variety of choice has anything to do with it. Somnal, one of the very latest of these new narcotizers, appears to have already won golden opinions in Continental practice, and in two instances where it has been privately tried in this country, the results are stated to have been eminently satisfacfactory. Somnal is an actual combination (and not a mere mixture) of alcohol, urethrane and chloral. Crystals of this body are obtainable, but they are somewhat unstable, and very deliquescent when exposed to the air, so that a saturated solution in alcohol is the form in which the compound is supplied, the name "somnal" being applied to this solution. The dose is an average of half a drachm. This takes effect in from twenty to forty minutes after administration, and induces a sound, undisturbed sleep, which continues for seven or eight, or sometimes as long as ten hours. The awakening is stated to be quite "natural," and no after ill effects are caused by this drug. In cases of insomnia from nervous depression or cerebral "shock," and also of acute neuralgia, somnal has been found extremely useful. There are stated to be doubts as to the real state of "combination" of the alcohol in this new preparation, which probably may be more a sort of chloral-urethrane which has itself been separately brought forward as a hypnotic.

Through the instrumentality of the Hospitals Association, an effective ambulance service for the transport of persons injured or suddenly stricken with illness in the London streets has been organized, and its completion in all its details will speedily be accomplished. The metropolis has been mapped out into districts on the basis of the police divisions, and 152 ambulances will be provided, including the fifty-eight already at the police station. For the additional number stations have been secured in suitable localities free of expense. After three month's trial conducted by the police and the hospital authorities a new form of ambulance has been decided upon. It will consist of an iron frame upon three bicycle wheels with India-rubber tyres, and will be furnished with the requisite appliances for rendering "first aid" to the injured. Already forty ambulances have been placed within the four mile radius, twenty being at fire brigade stations, fifteen at hospitals, four at industrial dwellings, and one at Holborn circus, and in a short time eighteen more will be supplied to cab-ranks. The cost of the service estimated at £300 per annum will be defrayed by subscriptions. Considering that four people are killed weekly in the streets of London, and a score or two injured, provision of this order is a work of real humanity.

Dr. Gervis speaking of puerperal fever, said that thirty years ago nothing was known about it. Nothing he considered had added more to the comfort of practitioners than the knowledge of the nature and treatment of these cases. In the great majority of cases septicæmia did not occur without local trouble, and very commonly evidence of this would be found near the outlet if carefully sought for, especially a perineal laceration, which must be treated with antiseptic solution. Pelvic pain was no safe guide to local mischief, considerable parametric swelling might be found on one side when pain was absent. Pelvic inflammatory mischief was the usual precedent to puerperal septicæmia. Curetting the uterus in these cases would need great caution. Dr. Gervis thinks that the uterus should not be washed out unless there were distinct reason to believe that septic matter was inside it, but he had long made a practice of sponging out the genitals with an antiseptic solution and ordering a daily vaginal douche. He thought that by these proceedings puerperal fever might be in time, prevented from occurring. Scarlatina might lead indirectly to septicæmia by leaving surfaces on the tonsils which would give ready entrance to specific germs.

The belief in witchcraft has not quite died out in rural England. At a recent inquest in Suffolk on a female child, æt. 11 weeks, the father and mother stated that they believed death was due to the witchcraft of the child's grandmother. This woman died a few hours before the child, and stated that the child would not live long after her. The child was taken out in a perambulator, and the father stated that he saw smoke arise from the perambulator, and that the child died upon being taken home, the mother stating that it was hot and dry, and smelt of brimstone. The husband of the deceased woman said he was of the opinion that his late wife had the powers of a witch, and he always tried to do what she wanted in consequence. Medical evidence showed that death was due to natural causes.

The leprosy committee, which was some time ago appointed by the Prince of Wales, continues its meetings at Marlborough House, the Presidents of the Royal Colleges of Physicians and Surgeons, and others taking part in the development of a plan for the scientific study of the disease. Of the £12,000 which it is desired to raise upwards of £7,000 has been subscribed. It is proposed to send surgeons trained to scientific investigation to Hawaii, Persia, and India, to collect evidence which will tend to give precision to the knowledge of the cause of the disease and its mode of transmission, and furnish data for preventing its extension.

The "new disease" which was recently discovered in Northern Italy, proves to be cases of ordinary small-pox with well marked prodromal rash.

In a previous letter referring to some statistics with regard to chloroform administration at St. Bartholomews Hospital, the verdict was given in favor of ether and not as inadvertently stated.

G. O. M.

DOMESTIC CORRESPONDENCE.

LETTER FROM NEW YORK.

(FROM OUR OWN CORRESPONDENT.)

The Fallacy of the So-called Hot Air Treatment of Phthisis—The First Annual Reunion of the Alumni of Bellevue Hospital—Dr. Alfred L. Carroll's Course of Lectures on Hygiene and Public Health—The cause célèbre of Kemmler—Reform in the Management of the Insane.

Dr. W. Gilman Thompson, Professor of Physiology in the University Medical School, has read before the Academy of Medicine a paper on "The

Fallacy of the So-called Hot Air Treatment of Phthisis" which ought to have a good effect on the profession and public of this country by exposing the untenableness of the claims put forth for the method in question. That this method is being practiced to a very considerable extent, is evident from the fact that a large establishment is being maintained in this city for the manufacture and sale of the hot air apparatus. This establishment, known as the "Dr. Louis Weigert Company," is scattering broadcast over the country a pamphlet entitled, "Proofs that Consumption can be Cured," which advertises, with various eulogistic letters and newspaper notices, the merits of a cheaper and improved form of the patent "Perfection Hot Air Medicine," the use of which it recommends in consumption, asthma, chronic bronchitis, and various nasal and laryngeal affections.

Dr. Thompson stated at the outset that he had had no practical experience with hot air inhalations in the treatment of phthisis, but he had been much interested in the reports of various observers concerning it; and before giving the results of his own experimental investigations he proceeded to give a *résumé* of what has been written in favor of and against the method during the last two or three years. In the course of this he referred to the exhibition of the Weigert apparatus before the Section on Practice of the Academy of Medicine in February, 1889, by Dr. A. L. Stern, and quoted from the comments of THE JOURNAL on the claims of Weigert and Stern, as presented at that time.

The only observers, he said, who had made a thorough report of the relative number of bacilli present while the patients were under treatment, were Drs. Sears and Trudeau, and they both agreed that there was no material deviation from the average. Trudeau, who, during the progress of his cases, made cultures of the bacilli, and also injected the sputa of his patients into rabbits at regular intervals of five weeks, arrived at the conclusion that the evidence obtained by the bacteriological study of these cases did not confirm the assumption that inhalations of heated air can either prevent the growth of the tubercle bacilli in the lungs of living individuals or diminish the virulence of the microbe when it has gained access to them. The alterations in symptoms reported by the various observers were no argument, he thought, in favor of the hot air treatment. None of these changes were of a very decided type, and any one accustomed to deal with cases of tuberculosis was familiar with the frequent slight changes met with in the course of three or four months, and which were readily explained by variations in diet, hygiene, environment, etc. It was also well known, he said, that the faith which many patients reposed in any new treatment often worked a temporary improvement in their condition. Again, in many instances the patients, in addition to the inhalations, were taking creosote and other remedies. Moreover, the lung gymnastics necessitated by deep inhalation might, in certain cases, have been of benefit by expanding the lungs more fully; thus increasing tissue change in various ways quite independently of any additional heat.

In referring to the immunity from tuberculosis of men exposed to high temperatures at lime-baking ovens, as alleged by Halter, he said that the immunity did not seem to extend to stokers, who inhale equally hot air. The very high speed recently developed by the transatlantic steamers had been attended by considerable loss of life among the stokers. A few months ago one of these men came under Dr. Thompson's care at the New York Hospital, suffering from a very acute pulmonary tuberculosis which had developed while he was at work in the boiler-room of an "ocean greyhound," and the surgeon of the same steamer had stated that in his experience such cases were becoming more and more frequent among the stokers employed in the very hot atmospheres.

The only observers, he said, who thus far had attempted to ascertain, before keeping their patients sucking at a hot air tube several hours daily for months at a time, whether the heated air really does enter the lungs without losing its heat, were Drs. Moss and Rondelli, of Turin. They separated two simple air chambers by a moist membrane, and succeeded in cooling air from 382° to 76° by evaporation in its passage through the membrane from one chamber to the other. They next allowed a dog to inhale air heated to 320° for fifteen minutes, while thermometers inserted in the trachea and bronchi respectively showed practically no difference in temperature. The rectal temperature also remained normal. Dr. Thompson said that the experiments of Moiso and Rondelli were entirely unknown to him until after his own had been completed, and that he was pleased to find that their results were in perfect accordance with those which he had himself obtained. He was desirous of undertaking an experimental investigation because he could not believe, upon theoretical grounds, in the advantages claimed for inhalations of hot and of cold air.

The theoretical objections presenting themselves to him were the following: 1. We are not accustomed to find any important changes in body temperature or in the character of the respiration in those who work in great heat, nor in those who are exposed to arctic cold.

2. The widest variation of body temperature admitted by physiologists to occur in those who exchange an arctic for a tropical climate does not exceed ½ to 1 degree, and even this is not constant.

3. Very hot air in contact with the mucous membrane of the nose, mouth, pharynx and larynx will destroy their epithelium, and produce painful swelling and congestion.

4. If it could reach further it would cause destruction of the ciliated epithelium of the bronchi, and the delicate cells lining the air sacs would be destroyed and desquamated.

5. It would cause dangerous capillary congestion of the lungs.

6. The bacilli are many of them buried in the large tubercular masses. It is not probable that if the hot air could enter the bronchioles or air sacs, it could reach more of the bacilli than such as were by chance contained in the sputa. To reach their real foci sufficiently heated to destroy them the hot air must warm the surrounding blood.

7. Blood serum albumen is coagulated at various temperatures according to the reaction of its evolution and the relative amount of salts present. It may coagulate at as low temperature as 122° or as high as 163°. The myosin in the muscles of the trachea and bronchi is coagulated at 131°–140°. The protoplasm of the various cells and blood corpuscles would all be hopelessly injured by the heat.

8. The blood itself, unless the pulmonary vessels were greatly congested and the heart's action much enfeebled, would tend to carry off the heat of the air very rapidly. An enormous surface of blood is exposed in the lungs which is constantly being replaced by each cardiac pulsation by fresh quantities of blood unheated by the air and ready to absorb more heat units before they can accumulate sufficiently to damage either bacilli or protoplasm.

9. The natural process of vaporization of the water from the mucous surface is amply sufficient to absorb all the heat units that can be brought to the bronchi by the super-heated air.

10. Only about one-tenth of the air in the lungs is exchanged with each respiration.

In the face of all these well known considerations he said it was very difficult to believe that any one could expect for a moment to fill the lungs during life with air hot enough or cold enough to kill bacilli. His experiments were therefore directed to determine: 1. How far can hot and cold air respectively be made to convey heat or cold into the air passages. 2. The influence of evaporation upon heat loss. 3. The influence of conduction and radiation upon heat loss. 4. Any changes, in body temperature, either local or systemic, produced by the inhalations in question. He employed a simple apparatus consisting of an iron pipe eleven feet long, bent with a close coil three inches in diameter, beneath which were placed several powerful Bunson burners. Air was forced through one end of the coil in a continuous current from a large treadle reservoir bellows, and from the opposite end the iron pipe was bent out straight for eight inches, and connected with an inhaler made to fit tightly over the head of the animal to be experimented on. The inhaler had a valve which prevented the inhaled air from entering the coil, and this air passed out through a lateral opening in the inhaler. A thermometer was placed in the inhaler close to the animal's nose, and another one six inches distant in the tube leading from the coil. The animal having been anæsthetized, thermometers were placed in the lungs or trachea, or both, through small openings which they fitted so closely as to make the holes air-tight.

Dr. Thompson then proceeded to give the details of a considerable number of experiments on cats and dogs, with inhalations of both hot and cold air. The latter, he said, had recently been suggested for the control of pulmonary hæmorrhage by Dr. Tullio, of Naples, who claimed to have checked three severe cases after failure with other means, such as drugs, ice to the chest, etc. For the cold inhalations he used the coil imbedded in a mixture of snow and salt; the bellows being operated outside the window in an atmosphere of 27°. In this way the air, after passing through the coil, registered less than 40° at the nose. The conclusions he derived from his experiments were as follows:

1. Continuous inhalation of air heated from 200° to over 300° at the nose does not raise the temperature of the lung at all in some cases, even when maintained for an hour or more.

2. In other cases, if continued for an hour and more, there may be a slight rise of temperature of from 2° to 4°, due to various causes other than the entrance of hot air into the alveoli.

3. The temperature of the trachea under corresponding conditions rises only from 4° to 6°.

4. Cold air does not affect the temperature of the trachea and lungs any more than hot air, and is, therefore, equally useless as an inhalation for any clinical purpose whatever. No one, he said, would think of controlling capillary oozing on the surface of the body by reducing the local temperature only one or two degrees, since it often took a prolonged direct application of ice to produce sufficient vaso-motor stimulus to control hæmorrhage, and even this frequently failed in post-partum hæmorrhage.

He believed the following conditions combined to secure a uniform mean temperature of the air in the lungs and to prevent the entrance of superheated air as such: The great vascularity of the pulmonary tissue; the extensive surface of the air sacs and blood vessels; the slow diffusion of the tidal with the residual air; the uniform temperature of the blood; the remarkable heat regulating mechanism of the entire body, which constantly tends to prevent local increase of temperature through the agency of a very rapid blood stream; the low specific heat of water and of blood, which is so largely composed of water; the large quantity of blood in constant circulation; the enormous number of heat units rendered latent by vaporization of water; the ease with which water can be drawn from the blood plasm to the surface of mucous membranes, and the slight conduction of heat by the body tissues.

In conclusion he remarked that there are undoubtedly many physiological experiments in regard to which we ought not to reason too closely from the lower animals to man; but it seemed to him that the experiments which he had reported were of a type which must necessarily apply to man as truly as to the lower animals, because they were based upon the laws of physics. They also, he thought, found one more illustration of the great value of vivisections conducted with the object of preventing the employment of methods powerless for the relief of human diseases, the ignorant use of which could only bring great discomfort and loss of time to the patient.

An event of great interest recently was the first annual reunion of the Society of the Alumni of Bellevue Hospital, which was held in connection with the thirty-second monthly meeting of the society during the second week in April. On Tuesday evening, at the Mott Memorial Hall, Dr. Chas. Phelps read a paper on "The Treatment of Simple Fracture of the Patella by Wiring," in which he presented the results of over fifty cases, and among those who took part in the discussion were Drs. Markoe, Bryant, Dennis, Lange, McBurney, Leale, Abbe, Fluhrer, L. A. Stimson and Stephen Smith. On Wednesday morning Dr. Lewis A. Sayre held one of his characteristic and instructive clinics on orthopædic surgery in the amphitheatre of Bellevue Hospital, and in the afternoon, at Mott Memorial Hall, the following papers were read: "Ultimate Results of Injuries to the Hip," by Dr. Reuben A. Vance, of Cleveland; discussion by Drs. F. Hartley, L. W. Hubbard, R. H. Sayre, J. McG. Woodbury and J. A. Wyeth. Discussion on "Transient Glycosuria and Delicate Tests for Sugar in the Urine," introduced by Drs. Brandreth Symonds, of the New York Life Insurance Company, and John Warren, of the Equitable Life Insurance Company, and continued by Drs. H. M. Biggs, A. Flint, G. B. Fowler, R. W. Greene, A. Jacobi, E. G. Janeway and J. W. Roosevelt. In the evening a banquet was held at the Hotel Brunswick, at which toasts were responded to by Bishop Quintard, of Tennessee, Drs. W. H. Draper, Austin Flint, A. L. Loomis, W. M. Polk, and others. The session was brought to a close by an obstetrical and gynecological clinic by Dr. W. T. Lusk on Thursday at Bellevue Hospital.

The course of lectures on Hygiene and Public Health, arranged by the managers of the Mott Memorial Library, is being well received. The lecturer, Dr. Alfred L. Carroll, who is recognized as one of the most accomplished members of the American profession, is especially well qualified to give such a course by his experience, for a number of years, as Secretary of the New York State Board of Health. Dr. Carroll, who for a long time resided at New Brighton, Staten Island, has recently resumed practice in this city.

The *cause célèbre* of Kemmler, the first murderer ever condemned to die by electricity, has now reached its final stage. The execution was postponed for many months by the efforts of the counsel for the prisoner to prove that the act providing for the carrying out of the death penalty by means of electricity was unconstitutional, on the ground that it is a "cruel and unusual" punishment; but the Court of Appeals has at last unanimously decided that the law is constitutional, and Kemmler has been sentenced anew. In concluding the opinion of the Court, Judge Daniel, who rendered it, says: "The decision of the Legislature is conclusive upon the courts. The amendment to the code making the new penalty is not in general purpose or intent a violation of any provision of the Constitution. The testimony taken by the referee, while not impeaching the validity of the Legislature's acts, is a valuable collection of opinions, but nothing more. The Court finds that the mode proposed is not cruel within the meaning of the Constitution, though unusual. On the contrary, all agree with the Court below that it removes every reasonable doubt that the application of electricity to the vital parts of the human body under such conditions and in the manner contemplated by the statute, must result in instantaneous and, consequently, painless death."

The friends of reform in the management of the insane and of humanity in general are jubilant over the passage, by the Legislature, of the new law which transfers all the pauper insane from the county poor-houses, where they are at the mercy of ignorant local officials and subject to all sorts of abuses, to the care of the State in institutions affording facilities for the best modern scientific treatment. This is a triumph after a long struggle, as the State Charities Aid Association, backed by the medical profession, has been striving to get such a bill passed for a number of years, but has always hitherto failed. The act applies to all the counties of the State except New York and one or two others. P. B. P.

MISCELLANY.

LETTERS RECEIVED.

Dr. B. C. Anderson, Beardstown, Ill.; Dr. N. D. Guerry, Trinity, Miss.; Dr. Wm. H. Dukeman, Los Angeles, Cal.; Dr. John B. Crowly, Sullivan, Ind.; Dr. Maris Gibson, Wilkesbarre, Pa.; Robt. P. Porter, Supt. of Census, Washington, D. C.; Dr. H. T. Rennolds, Baltimore, Md.; Dr. Wolfred Nelson, New York; Dr. B. M. J. Conlin, Alexandria, S. D.; Dr. M. T. Zellers, Hooper, Neb.; Dr. John B. Hamilton, Washington, D. C.; The Therapeutic Analyst, Norwich, Conn.; Dr. J. C. Culbertson, Cincinnati, O.; P. J. McCauley, St. Louis, Mo.; Dr. H. Reynolds, Livermore Falls, Me.; Medical Herald Co., St. Joseph, Mo.; I. Haldenstein, W. P. Cleary, New York; Dr. S. C. Ayres, Cincinnati, O.; Dr. Clarke Gapen, Omaha, Neb.; Dr. D. G. Trembley, Mace, Ind.; Horace A. Brooks, Salem, Mass ; H. Soule, Ann Arbor, Mich.; Thos. Leeming & Co., New York; Dr. J. H. Musser, Philadelphia, Pa.; A. J. Hoon, Mercer, Pa.; Dr. I. P. Klingensmith, Blairsville, Pa.; Dr. E. A. Cobleigh, Chattanooga, Tenn.; Dr. H. H. Mudd, St. Louis, Mo.; Dr. G. E. Humphrey, Galveston, Tex.; Dr. Wm. Pepper, Philadelphia, Pa.; Dr. J. M. French, Cincinnati, O.; Dr. J. C. Dunlavy, Sioux City, Ia.; Dr. J. M. Bleyer, New York; Dr. Alfred Stillé, Lea Brothers & Co. Philadelphia; The Chas. H. Phillips Chemical Co., New York; Occidental Med. Times, Sacramento, Cal.; Dr. J. Trush, Cincinnati; Dr. Wm. Woodward, Washington; Univ. of Penn. Press, Philadelphia; Dr. C. B Porter, Boston, Mass.; Dr. A. Philippi, Nieheim, Germany; Dr. Herbert Judd, Galesburg, Ill.; Dr. L. A. Roller, Detroit, Mich.; Dr. X. T. Bates, New Lebanon, N. Y.; Dr. J. J. Laurence, New York; T. W. Hannaford, London, Eng.; G. W. Moody, Shelbyville, Tenn.; Louis Jarchow, London, Eng.; Dr. M. Jay, South Bend, Ind.; T. H. Woodward, Lincoln, Neb.; C. F. Boehinger & Soehne, New York; J. R. Hawley, Cincinnati; Dr. J. W. Wright, Columbus, O.; Canton Surgical Chair Co., Canton, O.; Dr. W. F. Coleman, Chicago; Wm. C. Clemison, Warrenton, Mo.; Parke, Davis & Co., Detroit, Mich.; Dr. N. S. Davis, Dr. Frank S. Billings, Chicago; Dr. W. H. Williams, Brooklyn, N. Y.; Dr. W. E. Miller, Baylis, Ill.; Dr. H. P. Allen, Columbus, O.; Dr. C. A. Harvey, Dr. Ephraim Cutter, B. Westermann & Co., New York; Geo. W. F. Price, Nashville, Tenn.; Dr. E. C. Newman, Spokane Falls, Wash.; Dr. H. R. Storer, Dr. H. G. MacKay, Newport, R. I.; Dr. A. Blitz, Dr. N. B. Carson, St. Louis, Mo.; C. F. Putnam, Boston, Mass.; Dr. W. O. Bridges, Omaha, Neb.; Dr. W. S. Watson, Matteawan, N. Y.; Dr. C. H. A. Kleinschmidt, Washington; Dr. Alfred L. Carroll, Dr. Robert Newman, Frank Kiernan & Co.; Mariani & Co., Reed & Carnrick, J. M. Ceballos & Co., Drs. E. and J. A. Cutter, New York; Louis Lloyd & Co.; Publishers Commercial Union, Drs. H. A. and F. S. Johnson, Chicago; Dr. A. M. Mason, Chatham, N. Y.; Johnson & Johnson, New Brunswick, N. J.; Dr. S. B. Craver, Bryan, O.; Dr. T. D. Crothers, Hartford, Conn.; Dr. H. R. Storer, D. M. Wick, New Hartford, Conn.; Sultan Drug Co., Peacock Chemical Co., St. Louis, Mo.; Dr. J. Williams, Dr. E. F. Newton, Boston, Mass.; Dr. J. A. Cantrell, Dr. R. J. Dunglison, Philapelphia; Dr. Max Thorner, Cincinnati; Dr. G. W. Lacea, E. Saginaw, Mich.; The Sun, Williamsport, Pa.; H. H. Howe, Weston, Vt.; Dr. J. Lowden, Carrollton, Ind.; Dr. Max E. Witte, Mt. Pleasant, Ia.; Potter & Clarke, London, Eng,; Dr. H. A. Bogie, Kansas City, Mo.; Dr. Wm. C. Woodward, Washington, D. C.; L. H. Wood, Highlands, Col.; Dr. M. Kirkpatrick, S. Omaha, Neb.; Dr. J. A. Crook, Jackson, Tenn.; Dr. Horatio R. Bigelow, Boston, Mass.; Dr. A. J. Shockley, Ruby, Mich.; Dr. B. C. De Roo, Cincinnati; Dr. D. G. Simmons, Adairville, Ky.; Dr. Henry C. Coe, New York; Dr. S. P. Deahofe, Potsdam, O.; R. V. Woodcock, Jerome Kidder Mfg. Co., New York; A. E. Walesby, Louisville, Ky.; Dr. A. L. Hummel, Philadelphia; Dr. J. H. Carstens, Detroit, Mich.; Dr. H. C. Jones, Decatur, Ill.; Dr. J. Woitishek, Ely, Ia.; Dr. M. H. Fletcher, Cincinnati; A. Kingston, Philadelphia; Dr. C. F. Farrar, Kingston, Miss.; Dr. H. A. Lee, Liberal, Ind.; Dr. Wm. Mosby, Bardwell, Ky.; Farwell & Rhines, Watertown, N. Y.; Dr. A. P. Dudley, New York; Dr. F. P. Jenks, Brooklyn, N. Y.; Dr. J. J. Morrow, Gassville, Ark.; Dr. A. C. Haven, Lake Forest, Ill.; J. W. Farrar, Chicago; Dr. H. C. Markham, Independence, Ia.; Lea Bros & Co., Philadelphia; Horlick's Food Co., Racine, Wis.; Dr. W. W. Parker, Dibrell, Tenn.; W. D. Kline, Nashville, Tenn.; Wm. R. Warner & Co., Philadelphia; Dr. H. N. Hall, Chicago; The American News Co., New York; Doliber Goodale Co., Boston; Dr. D. C. Stillmans, Redlands, Cal.; Dr. P. M. Carrington, Savannah, Ga.; Dr. H. T. Pershing, Denver, Col.; Dr. M. T. Dodge, Troy, Me.; Dr. J. E. Hatcher, Mooreville, Tex.; Dr. O. W. McHellar, De Smet, Dak.; Dr. M. L. Pine, Fabius, N. Y.; Dr. L. F. Daggett, Sioux Falls, S. D.; Dr. J. E. MacAdams, Gardner, Ill.; Dr. W. T. Hall, Avenue, Pa.; Dr. T. H. Barton, Syracuse, N. Y.; Dr. Thos. H. Stewart, Church Hill, O.; Dr. Chas. W. Galloupe, Lynn, Mass.; Dr. E. A. Bass, Montello, Wis.; Dr. J. H. Fretz, Hagersville, Pa.; Dr. J. F. Maxwell, Resaca, N. C.; Dr. T. A. Drake, Terre Haute, Ind.; Dr. Jas. E. Pilcher, Fort Clark, Tex.; Dr. D. J. McCaffrey, Blackstone, Mass.; Dr. A. L. Carroll, E. Steiger & Co., New York; Armour & Co., Chicago; Dr. Henry Chapple, Billings, Mont.

Official List of Changes in the Stations and Duties of Officers Serving in the Medical Department, U. S. Army, from May 23, 1890, to May 29, 1890

Major J. B. Girard, Surgeon, is granted leave of absence for one month, to take effect as soon after June 1 prox. as a medical officer can be sent to Ft. Lowell for temporary duty. Par. 1, S. O. 48, Hdqrs. Dept. of Ariz., May 17, 1890.

By direction of the Secretary of War, a board of medical officers, to consist of Lieut.-Col. Anthony Heger, Surgeon; Major John Brooke, Surgeon; Major Robert H. White, Surgeon, will assemble at the U. S. Military Academy, West Point, N. Y., on June 7, 1890, to examine into the physical qualifications of the candidates for admission to the Academy and, in connection with the Superintendent of the Academy and Commandant of Cadets, the members of the graduating class. Reports of the proceedings of the board will be forwarded, through the Superintendent of the Academy, to the Adjutant General of the Army. Special reports will be made in the cases of any graduates deemed to be physically unfit for the military service, and also in the cases of candidates who may be admitted on probation or rejected. Par. 3, S. O. 121, A. G. O., Washington, D. C., May 23, 1890.

Major Charles L. Heizmann, Surgeon U. S. A., is granted leave of absence for one month. Par. 1, S. O. 39, Dept. of Texas, May 19, 1890.

Major John V. Lauderdale, Surgeon U. S. A. (Ft. Ontario, N. Y.), is hereby granted leave of absence for one month, to commence on or about June 1, 1890. Par. 4. S. O. 123, Hdqrs. Div. of the Atlantic, New York City, May 27, 1890.

By direction of the Secretary of War, as much of par. 2, S. O. 119, A. G. O., May 21, 1890, from this office, as relates to Capt. Robert B. Benham, Asst. Surgeon, is amended to read as follows: Capt. Robert B. Benham, Asst. Surgeon, will proceed from Madison Bks., N. Y., to Ft. Wadsworth, N. Y., and report in person to the commanding officer of that post for temporary duty.

Official List of Changes in the Medical Corps of the U. S. Navy for the Week Ending May 24, 1890.

Asst. Surgeon Rand P. Crandell, ordered to the Naval Hospital, New York.

P. A. Surgeon Thos. A. Berryhill, detached from hospital, New York, and ordered to hospital, Mare Island, Cal.

P. A. Surgeon Frank Anderson, ordered to special duty, Bureau Medicine and Surgery.

Medical Inspector W. K. Van Reypen, ordered to New York on special temporary duty.

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ORIGINAL ARTICLES.

TWO CASES OF RESECTION OF THE CÆCUM FOR CARCINOMA; WITH REMARKS ON INTESTINAL ANASTOMOSIS IN THE ILEO-CÆCAL REGION.

Read in the Section of Surgery and Anatomy at the Forty-first Annual Meeting of the American Medical Association, held in Nashville, Tenn., May 21, 1890.

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The two cases reported in this paper are intended to serve as a contribution to the as yet scanty literature of resection of the cæcum. In complete excision of the cæcum the section on the proximal side of the portion to be removed necessarily falls through the ileum near its junction with the cæcum, while on the distal side the ascending colon is divided transversely, which, after the removal of the cæcum, makes it necessary to unite two bowel ends of unequal lumina if an attempt is made to restore the continuity of the intestinal canal by circular suturing. As the resected end of the colon is at least three times larger than the ileac end, circular suturing is impossible without resorting to some device by which the two lumina are made more nearly alike in size. Two methods have been suggested to accomplish this object: 1. The excision of a V-shaped piece from the distal end, the base of the portion to be removed being sufficiently wide, so that after bringing the two margins of the triangular wound in apposition by two rows of sutures, the colon should correspond in size with the ileac end. Against this procedure it can be urged that it requires additional time in making the resection, and necessitates a large number of sutures which are always a source of danger, at the same time there is considerable danger from gangrene at the junction of the circular line of suturing with the line of sutures made parallel to the gut in closing the triangular wound. 2. Oblique resection of the ileum, the lumen being increased at the expense of a part of the convex portion of the bowel. This is the method which Billroth followed in a number of cases. If the section of the bowel is made sufficiently oblique so that the lumen shall correspond in size with that of the distal end, it must be apparent that after the ends have been united by sutures the insertion of the ileum into the colon is at an acute angle, the apex of the angle being directed downwards and the base in an upward direction, a condition which is invariably attended by the formation of a long spur between the lumina of the united intestines. The combined influence of the obliquity of the terminal end of the ileum to the colon, and the presence of a spur between it and the colon results in intestinal obstruction at this point. Experience has demonstrated that the fear of causing a serious and often a fatal obstruction by this method of operating is not unfounded. Billroth lost several cases from this cause, and has abandoned the operation as impracticable and dangerous. There are at present only two procedures which can be employed with safety in uniting bowel ends of unequal lumina after enterectomy: 1. Lateral implantation. 2. Lateral apposition by means of absorbable perforated approximation plates. Billroth now resorts to the former method, and with its adoption the results after excision of the cæcum have improved. If the continuity of the bowel after excision of the cæcum is restored by lateral implantation, the end of the colon is closed by *invagination*, and a few superficial sutures to prevent disinvagination, and the ileac end is implanted into a slit in the colon, at a point opposite to the mesocolon and about two inches from the closed end. The slit in the colon should correspond in size with the circumference of the ileac end to be implanted. The fixation of the ileum by Czerny-Lembert sutures is a time-consuming and unsafe procedure. Some time ago I devised a method of implantation in such cases which requires in its execution only one-fourth the time consumed in suturing, and the results obtained by it were far more satisfactory. The method consists in lining the ileac end to be implanted with a narrow flexible rubber ring, which is retained in place by a continued catgut suture, embracing the free margin of the bowel and the lower margin of the rubber ring. The ring itself is simply a narrow rubber band, the length of which corresponds with the size of the lumen of the bowel, and which is converted into a ring by fastening the ends together with two catgut sutures. The implantation is made by two catgut sutures, threaded each by two needles and passed at opposite points from within outwards through the upper margin of the ring and the entire thickness of the bowel, while on the opposite side the needles are only passed through the serous and muscular coats of the colon. After both sutures are in place gentle traction upon all the four ends invaginates the end of the ileum into the incision in the colon, and the colon is drawn well over the end of the ileum to the points where the needles emerged from the ileum. When in proper position, the serous surfaces of the colon and ileum corresponding in extent to the width of the rubber ring are in accurate coaptation, after the two sutures are tied. In my experiments on animals it was found necessary only in exceptional cases to apply one or two additional superficial coaptation sutures. The rubber ring keeps the lumen of the ileum patent for the ready escape of intestinal contents into the colon, at the same time the gentle elastic pressure which it exerts upon the parts around it, is an important element in securing accurate apposition between the coaptated serous surfaces. The implantation sutures can usually be relied upon in maintaining the invagination until adhesions have taken place, but in operations upon the human being it would be well to reinforce them by a number of Lembert sutures after the bowel has been fixed in its place by tying of the invagination sutures. Of the numerous experiments on dogs in which I practiced this method of implantation, I will only cite one in illustration of what has been said concerning the ease of execution and safety of this operation.

"Dog, weight 35 pounds. Ileum divided twelve inches above ileo-cæcal region, distal end closed by invagination and three stitches of the continued suture, and the proximal end lined with flexible rubber ring was implanted into an incision in the transverse colon, and retained by two catgut invagination sutures. An omental flap an inch and a half in width was placed over the junction of the two intestines, and fixed in its place by two catgut sutures. No unfavorable symptoms after the operation. Animal when killed eighteen days later, was in excellent condition. Omentum adherent to abdominal wound, which was firmly united. Omental flap adherent all around. Colon above new opening ten inches in length, completely empty, contracted and atrophic. New opening oval in outline, and as large as the lumen of the ileum."

In this, as well as in a number of other cases, the line of junction between the ileum and colon was covered with an omental flap, and without exception the flap was found adherent throughout, constituting a living bridge between the united intestines joined together. In a number of cases I found at the necropsy the ileum projecting slightly into the lumen of the colon, presenting around the new opening a circular ridge of mucous membrane, which in structure, and probably also in function, represented almost to perfection the normal ileo-cæcal valve. Lateral implantation of the ileum into the colon after excision of the cæcum is a speedy and comparatively safe procedure, and yields excellent functional results, but continuity of the intestinal canal under similar circumstances can be restored by a still more simple and efficient operation, viz: ileo-colostomy by approximation plates of decalcified bone. In this operation the tissues are not damaged by extensive suturing, while, on the other hand, large serous surfaces which it is intended to unite are brought together, and are kept in uninterrupted accurate contact by the absorbable bone-clamp until firm adhesions have formed. The cases here reported are of interest, because in both of them after excision of the carcinomatous cæcum the continuity of the intestinal canal was successfully restored by this method.

Case 1.—Carcinoma of cæcum; excision of cæcum and eighteen inches of ileum with corresponding portion of mesentery. Restoration of continuity of intestinal canal by ileo-colostomy with decalcified perforated bone plates. Recovery.

The patient was a spare man of medium height, 37 years of age, and a farmer by occupation, who came to consult me by the advice of his family physician, Dr. Minnahan, of Cato. The patient is unaware of the existence of any hereditary taint or predisposition to tuberculosis or malignant disease in his family. His health was excellent prior to August 16, 1887. On that day he was taken suddenly ill with an attack of vomiting, without any obvious cause, which lasted for six hours. The patient insists that towards the last he vomited fæcal matter. He recovered rapidly and remained in comparatively good health until the following October, when he suffered from a similar attack of four hours duration. This time he experienced a sharp pain in the ileo-cæcal region, and soon after felt a distinct swelling in that locality. From this time on until March, 1889, the pain recurred periodically, the intervals becoming shorter and shorter until pain became almost continuous with few and only slight remissions. During this time he suffered also a great deal from flatulence, the bowels were inclined to be loose, but the general health was not much impaired. Since March, 1889, diarrhœa became a prominent symptom, the stools being liquid, but showing no trace of blood or mucus. Pain increasing in severity and more constant, and always partially relieved by the free passage of gas per rectum. At the time he was admitted to the Milwaukee Hospital, October 9, 1889, he had lost 45 pounds in weight. Examination at this time revealed the existence of a hard nodulated fixed tumor in the ileo-cæcal region, and tympanites in the hypogastric and umbilical regions. Distension of the colon by rectal insufflation of hydrogen gas made the tumor more prominent, showing that its location was intra- and not extra-peritoneal. Not much tenderness on pressure. Digital exploration of rectum yielded a negative result. Marasmus and anæmia well marked. For the last seven months the patient has had from four to six liquid discharges from the bowels. Appetite impaired. Temperature normal, pulse from 80 to 90 per minute. From the history of the case, and especially from the character and location of the tumor, a positive diagnosis of carcinoma of the cæcum was made. As the ordinary medical treatment which had been pursued for months afforded but little relief, the consent of the patient and his friends to an operation was readily obtained. Laparotomy was performed on the day of his admission, October 9, 1889. Before chloroform was administered ⅙ of a grain of morphine with $\frac{1}{200}$ of a grain of atropia were given subcutaneously. The strictest antiseptic precautions were carried out before and during the operation. The abdomen was opened by an incision extending from near the middle of Poupart's ligament to a point half way between the anterior superior spinous process of the ileum and the umbilicus. As soon as the peritoneum was opened the tumor came into view. It was now seen that the tumor involved the entire circumference of the cæcum, and its immobility suggested that it was intimately connected with the retro-peritoneal tissues. The ileum and colon were emptied by displacing their contents, and each part was entrusted to an assistant, who was instructed to prevent fæcal extravasation by making digital compression until the completion of the anastomosis. The colon was divided about two inches below the margin of the tumor and the ileum near its junction with the cæcum; both sections showed that the incisions were made through healthy tissue. The bleeding vessels were tied with fine silk ligatures. Several large glands were found in the retro-peritoneal space behind the cæcum, and were enucleated in one large mass with the cæcum and a portion of the peritoneum which was adherent to the glands. After the removal of the cæcum, it was noticed that the mesentery of the lower portion of the ileum contained several enlarged glands, consequently it was removed with about eighteen inches of the ileum. The mesentery was tied in a number of small sections with fine silk ligatures before it was excised. During the whole operation a small compress was kept in the abdominal cavity to prevent prolapse of the small intestines, and to guard the peritoneal cavity against infection in case fæcal extravasation should occur. After all hæmorrhage had been carefully arrested both resected ends were closed by invagination and a few stitches of the continued suture, the first stitch was made to transfix the mesentery at the point where it was invaginated into the bowel. Medium sized perforated decalcified bone plates were used in making the ileo-colostomy by lateral approximation. An incision about two inches in length was made near the closed ends of both intestines at a point opposite the mesenteric attachment, and into each opening a bone plate was inserted, and the lateral sutures, armed with a needle, were passed about an eighth of an inch from the margin of the wound at a point half way between the angles of the intestinal wound. The surfaces of the bowel corresponding to the part covering the plates were freely scarified with an ordinary sewing needle. The visceral wounds were now brought *vis a vis* in such a manner that both closed ends were directed downwards, bringing in this manner the free surface of the colon and ileum together. Before any of the plate sutures were tied a number of Lembert sutures were applied posteriorly, sufficiently far back so that after the approximation they should be just beyond the borders of the plates, thus affording additional security in maintaining coaptation. The posterior pair of transfixion sutures was now tied, after which both pairs of the sutures not armed with needles were tied. During the tying of these sutures it is of the greatest importance that an assistant should keep the plates accurately and closely pressed together. The last sutures to be tied were the second pair of fixation sutures, and as this was being done the bowel on each side was carefully pushed in between the plates with a probe. The sutures were tied in a square knot and only with sufficient firmness to bring the parts in apposition, as any undue pressure would have been detrimental, and might have resulted in gangrene of the tissues included between the plates. The sutures were cut short and the ends brought as near the opening as possible by pushing them in this direction with a probe. After all the approximation sutures were tied, it only remained to apply on the upper side a few Lembert sutures in the same manner as was done on the opposite side before any of the approximation sutures were tied. After the exposed parts were disinfected and dried, the bowel was returned into the abdominal cavity and anchored near the wound with a silk suture, which was made to embrace the parietal peritoneum and mesentery at a point opposite the anastomotic opening. The wound was closed with two rows of sutures, the first including only the peritoneum. No drainage. The subsequent history of the case was uneventful. The highest temperature was registered on the third day, when it reached 101.6° F., but returned to normal on the fourth day. During the first two days liquid food was administered by rectum. After this time the patient was allowed milk, beef tea and raw eggs, and after another week he was placed on the ordinary hospital diet which he relished greatly. The bowels moved from one to three times daily, the passages becoming gradually normal in color and consistence. The wound healed by primary union with the exception of a small place where a small parietal abscess formed at the end of the first week. On the ninth day half of the plate in the colon passed per rectum, and the following day the remaining half with the plate from the ileum with the sutures attached, was found in one of the stools. The patient left his bed on the twenty-eighth day after the operation, and three days later he returned to his home in the northern part of Wisconsin. At the time he left the hospital nothing abnormal could be felt in the right iliac region; no pain and no tenderness on pressure. He gained rapidly in flesh and strength, and when I saw him again during the latter part of January, 1890, he weighed nearly as much as before he was taken sick. Since the operation he has had no pain, no diarrhœa, and the discharges from the bowels once or twice a day were normal in every respect. At this time, however, I was able to detect a small hard nodulated tumor behind the colon at a point above where the ileum had been attached to the colon, which I regarded as a recurrence of the disease along the chain of lymphatics behind the peritoneum, but no evidence of a return of the carcinoma in the bowel. The specimen removed represents the entire cæcum, a number of retroperitoneal glands, eighteen inches of the ileum with the mesentery attached to it. The carcinoma had evidently started in the ileo-cæcal valve and involved the entire circumference of the cæcum, the walls of which had become greatly thickened by the infiltration. The lumen of the ileo-cæcal opening was not larger than an ordinary lead pencil, and the interior of the cæcum near the ileo-cæcal valve presented a number of deep excavations resulting from the breaking down of the carcinomatous mass. The walls of the ileum for some distance above the cæcum were greatly thickened, and as examination showed the thickening was due to the formation of new muscular fibres, the thickening must be regarded in the light of a compensatory muscular hypertrophy which occurred in consequence of the chronic obstruction at the ileo-cæcal opening. At a point corresponding to the meso-cæcum the carcinoma had reached the outer surface of the bowel, and from here undoubtedly the extension of the disease to the retro-peritoneal lymphatic glands had taken place. Stained sections of the tumor under the microscope showed that the growth was a cylindrical celled carcinoma.

Remarks.—It is interesting to note in this case that, although the carcinoma started in a place where even a slight narrowing may give rise to obstruction, the patient suffered for more than half a year from diarrhœa, which is often one of the most important clinical evidences of the existence of a chronic obstruction, especially when located below the ileo-cæcal valve. The obstruction increases the functional activity of the bowel for some considerable distance above it, and the increased secretion is forced almost as soon as it appears in the bowel, through the narrow opening beyond the seat of obstruction, on account of the increased muscular activity of the hypertrophic portion of the bowel. Chronic obstruction is followed by symptoms of acute strangulation where one of two things happens: 1. If a solid body becomes impacted in the narrowed lumen of the bowel the obstruction becomes at once complete, and the symptoms then rather point to the existence of conditions which are known to give rise to acute obstruction than to a chronic cause.

2. If from any local or general causes the compensatory hypertrophy of the bowel on the proximal side of the obstruction is rendered inadequate, the bowel becomes dilated, and finally completely incapacitated from performing its function, and the clinical picture of chronic obstruction is supplanted by symptoms of acute obstruction. From the history of the case it is evident that the carcinoma commenced more than two years ago, and was the cause of the periodical pain and diarrhœa, both of which symptoms gradually becoming more severe and persistent as the stenosis increased. Cylindrical celled carcinoma of the large intestine, like the squamous epithelioma of the lip, is slow in its growth, and, as a rule, is followed by glandular infiltration at a late date. We have every reason to believe, that had a radical operation been performed in this case before the disease extended beyond the limits of the bowel, the prospect of a permanent cure would have been good. The recurrence of the disease in the retro-peritoneal lymphatic glands four months after the operation only shows the difficulty of eradicating the disease after lymphatic infection has occurred. The new opening between the ileum and colon must have been adequate, as the normal fæcal circulation was restored almost immediately after the operation, and has remained so to the present time. Although a fatal termination from recurrence of the disease in the retro-peritoneal space is inevitable, the results of the operation must be regarded as highly satisfactory. All has been accomplished by the operation that can be expected under

these circumstances, removal of the cause of obstruction without recurrence of the disease in the bowel, and perfect restoration of the continuity, and function of the intestinal canal after such extensive resection.

Case 2.—Carcinoma of ileo-cæcal valve with invagination; Resection of cæcum with portion of colon; Restoration of continuity of intestinal canal by ileo-colostomy with absorbable perforated bone plates; Death six days after operation from peritonitis caused by deep ulcers of excluded portion of colon.

This patient was a corpulent married woman, 53 years of age, who was placed under my care at the Milwaukee Hospital, November 14, 1889, by her physician, Dr. L. Reinhard, of this city. She is the mother of eleven children, and had always been in robust health until a year before she was admitted into the hospital. No history of tumors in any member of the family. Her present illness dates back one year, when she was seized by an attack of vomiting without any apparent cause, as even then she was able to take food without causing any discomfort. The vomiting was not attended by nausea, and subsided after a few days without any special treatment. A month later a similar attack recurred, followed again by apparent complete recovery. During the next six months she suffered from six similar attacks at intervals of one month; each attack lasting for a few days, between them the patient considered herself well. The intervals then became gradually shorter, at first every two weeks, then every week, and finally every second or third day. During all this time she never suffered from constipation, the stools being normal in frequency and character. During the last ten months she has lost forty pounds in weight, and the complexion of the face, which formerly was ruddy, has now become pale and yellow. A tumor was discovered five weeks ago in the umbilical region by her attending physician. At that time she suffered a great deal from pain and vomiting, both of which were relieved by a brisk cathartic. From this time on the bowels moved several times a day, the discharge being liquid, but contained at no time either mucus or blood. A number of physicians who examined the patient since the tumor was discovered in the umbilical region, made a diagnosis of carcinoma of the stomach, and gave it as their opinion, that the tumor involved the great curvature of this organ. Pain and vomiting have been the most prominent symptoms for a number of weeks, and were only partly relieved by subcutaneous injections of large doses of morphia. Although the patient felt more distressed after eating, the vomiting occurred at irregular intervals, and was not always brought on by taking food. A careful examination made the day before operation revealed the presence of a firm movable tumor, somewhat elongated in shape, and about the size of a medium sized orange, a little above and to the right of the umbilicus. The tumor could be easily pushed under the costal arch on both sides, and in a downward direction on the right side nearly as far as the iliac region, but not quite as far to the left side. The mobility was less in a lateral direction. The patient was much emaciated and presented an anæmic, almost cachectic appearance. It was almost the unanimous opinion of those who examined the patient at this time, that the tumor, carcinomatous in character, was located in the large curvature of the stomach, but the possibility of carcinoma of the transverse colon was not excluded. The great mobility of the tumor induced me, at the urgent request of the patient and her husband, to make an attempt to remove it in either event. The operation was performed November 14, 1889. Immediately before the operation the stomach was washed out with a warm saturated aqueous solution of salicylic acid, and, at the same time, morphia and atropia were given subcutaneously. Chloroform was used as an anæsthetic. The abdomen was opened by an incision through the median line, extending from near the ensiform cartilage to the umbilicus. Manual exploration revealed the stomach in a healthy condition, and after careful examination it was ascertained that the tumor consisted of the structures of the ileocæcal region which had become invaginated as far as the middle of the transverse colon. The incision was now enlarged in a downward direction for the purpose of securing more easy access to the seat of invagination. Moderate traction upon the bowel below the apex of the intussusceptum and above the neck of the intussuscipiens had no effect in reducing the invagination. I now grasped the invaginated portion with both of my hands, and made firm compression for a few minutes was made for the purpose of diminishing the swelling by squeezing out the blood and œdema fluid, and thus facilitating the subsequent steps in effecting the invagination. The neck of the intussuscipiens was dilated by inserting the tip of the index finger at different points. Traction was then again made as before, and reduction was accomplished, not, however, without making a number of longitudinal lacerations in the peritoneal covering of the intussuscipiens, the rents extending from its neck in an upward direction for two or three inches. The invaginated portion was eight inches in length, and was composed of the entire cæcum, a portion of the ascending colon and a small part of the ileum. An examination of the surface of the intussusceptum, showed that the obstacles to reduction were numerous adhesions between the apposed serous surfaces of the intussusceptum and intussuscipiens, which were forcibly separated during the disinvagination. On submitting the cæcum to a careful examination, it was evident that its interior was occupied by a tumor which appeared to involve the ileo-cæcal opening. The cæcum was therefore opened by a longitudinal incision, and examination of its interior by inspection and digital exploration revealed an ulcerating carcinoma, which occupied the entire ileo-cæcal valve, and had infiltrated a considerable portion of the cæcum. A similar incision was made into the ileum near its insertion into the cæcum, and digital examination through this opening proved that the carcinoma had diminished the size of the ileo-cæcal opening to the diameter of an ordinary lead pencil. Retroperitoneal and mesenteric glands normal. As the invaginated portion of the colon had been considerably damaged during the reduction of the invagination, it was decided to remove it with the carcinomatous cæcum. Fæcal extravasation was prevented in the same manner as in the preceding case by digital compression of the intestine beyond the line of section. The mesocolon and meso-cæcum were ligated in small sections with fine silk before the parts were excised. The ileum was divided about three inches above its insertion into the cæcum, and the colon about eight inches below the ileo-cæcal valve. Both resected ends were turned inwards about an inch, and the invagination maintained by a few stitches of the continued suture, which embraced only the serous and muscular coats, and one of them also the invaginated mesentery. The continuity of the bowel was restored by an ileo-colostomy with decalcified perforated bone plates in the same manner as in the first case, only that in this instance the incision into the colon was made about six inches from its closed end, as the part below this, which had been the intussuscipiens, could not be trusted in doing its share of the work in establishing the intestinal anastomosis, on account of the pathological conditions which were produced during the time the invagination existed. The peritoneal lacerations which were made during the reduction of the invagination were closed with a few superficial sutures. Scarification of the serous surfaces which were to be included by the plates was done before the approximation sutures were tied, and a number of superficial sutures were applied outside the borders of the plates to aid these in maintaining apposition between a maximum area of serous surfaces. Through the mesentery of the closed resected ends, a suture was passed which was brought out through a button-hole made for drainage in the right iliac fossa, and after the intestine was dropped into the abdominal cavity the approximated portion was drawn into proper position in the ileo-cæcal region by making traction on the suture, and was anchored in this locality by tying the suture over a small roll of iodoform gauze. A rubber drain was inserted through the button-hole, and the abdominal incision closed in the usual manner by two rows of sutures. External dressing was composed of a compress of iodoform gauze, and a thick layer of absorbent cotton, which was retained by wide strips of rubber plaster encircling two-thirds of the circumference of the body. Duration of the operation an hour and a half. The patient reacted well from the immediate effects of the operation, and no untoward symptoms appeared until the end of the third day, when unmistakable symptoms of septic peritonitis developed suddenly, which rapidly increased in intensity as the inflammation became more diffuse. The dressings were now removed and through the drainage opening pus was sought for, but no fluid could be found. Castor oil was given which procured free evacuation. The peritonitis proved fatal on the third day, six days after operation.

Post-mortem four hours after death. Abdominal incision united throughout. Omentum displaced towards the right iliac region and adherent to intestines. Separation of the omental adhesions liberated about half a pint of sero-sanguinolent fluid from the right iliac region. A fibrino-plastic peritonitis which had evidently started near the site of operation was found to have become diffused from here over the lower portion of the peritoneal cavity, being especially well-marked in the right iliac region. Breaking down the adhesions the closed end of the colon was found turned in an upward direction, while the seat of approximation occupied the ileo-cæcal region. At a point corresponding to the cut surface of the meso-colon a disintegrated softened blood clot was found. After removing the coaptated parts with adjacent portion of the colon and ileum, the serous surfaces, which had been included between the plates, were found firmly adherent throughout, and the superficial sutures completely buried underneath a layer of plastic exudation. On connecting the ileum with a hydrant a large stream of water escaped from the gut end of the colon, showing that the new opening was fully established. On closing the open end of the colon the bowel was forcibly distended without causing any leakage, a positive proof that union between the coaptated surfaces was perfect. The remnants of the plates came away by the irrigation to which the specimen was submitted, the one from the ileum was much softened, while in that from the colon about three quarters of the margin of the perforation was still intact. On slitting the bowel open on each side, where the plates had been, the anastomotic communication could be seen from each side as an oval opening with smooth margins lined with mucous membrane through which the thumb could be readily inserted as far as the first point.

The approximation sutures remained attached by one of the marginal threads. The most interesting condition was found in the excluded portion of the colon, that is, in that part below the anastomotic opening which formerly had been the intussuscipiens. An old circular ulcer about a quarter of an inch in diameter with abrupt indented margins was found at a point which corresponded to the space between the two layers of peritoneum of the meso-colon. The ulcer had nearly perforated, and the peritoneum covering it was of an ashy-gray color, showing that it was on the verge of necrosis; this point corresponded to the location of the softened blood clot from where evidently the peritonitis had taken its origin. There can be but little doubt that infection occurred from the ulcer through the necrosed peritoneum, where it was communicated to the blood clot, and from there to the peritoneum. Another ulcer somewhat smaller in size, was found about an inch higher up in the bowel and at a point opposite to the attachment of the meso-colon.

Remarks.—In this case the carcinoma, of the same tissue type as in the preceding case, developed in the region of the ileo-cæcal valve, where it infiltrated the entire circumference of the ileo-cæcal opening, thus giving rise to early stenosis and remote symptoms of intestinal obstruction. As the tumor in the umbilical region was only discovered five weeks prior to the operation, it is somewhat uncertain at what time invagination occurred. The great thickening of the wall of both the intussceptum and the intussuscipiens, the great vascularity and especially the numerous firm adhesions, would rather indicate that the invagination had existed for a long time, perhaps six months or a year. Chronic invagination can exist for a long time without becoming an immediate source of danger. Pohl has described an interesting specimen of chronic invagination taken from a man 62 years of age, who suffered from two attacks of intestinal obstruction eleven years apart. The second attack proved fatal after an illness of eleven days' duration. The post-mortem appearances indicated that the invagination which was found had existed for eleven years, and that the second attack was due to an aggravation of the mechanical difficulties at the seat of invagination, which had given rise to ulcerative inflammation of the mucous membrane lining the intussusceptum, perforation and suppurative peritonitis. The invagination was located in the lower portion of the ileum. The intussuscipiens was 30 ctm. in length, its muscular coat hypertrophic, mucous membrane thickened and very vascular, and some of its folds adherent to the enclosed intestine; on the posterior wall near the mesenteric attachment two perforations were found. The mucous membrane of the intussusceptum was extensively ulcerated; old and firm adhesions at the neck of the intussuscipiens. The mesentery of the ileum, throughout, but especially at the seat of invagination, was much thickened. The ileum above obstruction dilated and its walls thickened. The ileum for some distance in my case was slightly dilated and its walls hypertrophic. The thickening gradually increased as the ileum approached the cæcum. The ulcers which were found in the excluded portion of the colon, and which for obvious reasons I considered the direct cause of the fatal peritonitis, were undoubtedly of long standing and were caused by the invagination. My only regret in this case is that I did not excise the entire invagination, intussusceptum and intussuscipiens, as in case this had been done the patient would not only have recovered from the operation, but would in all probability have been permanently cured. In reference to diagnosis during life, I will repeat that the most urgent and prominent symptoms pointed rather to carcinoma of the stomach than to carcinoma of the cæcum complicated by invagination. In the aged invagination is frequently caused by the presence of a malignant tumor in the bowel below the ileo-cæcal valve, and the obstruction, like in my case, is usually at first incomplete and gives rise to a clinical picture suggestive of chronic stenosis. The absence of blood and mucus in the discharges, of constipation and straining, and the presence of periodical attacks of vomiting, but more especially the great mobility of the tumor, led me to suspect a carcinoma of the great curvature of the stomach rather than the conditions found during the operation. On the supposition that the tumor was located in the stomach, the abdomen was opened by a median incision, which on being enlarged afforded ample access to the parts which were to be treated by operative measures. Had the primary location of the carcinoma been known beforehand and the complication correctly interpreted, it would have been better to open the abdomen by a lateral incision, as was done in the first case. Adequate drainage, should this be required, can be established more readily after an operation through a lateral than a median incision.

INTESTINAL ANASTOMOSIS IN THE ILEO-CÆCAL REGION.

Indications.—Intestinal anastomosis by making an ileo-colostomy with perforated decalcified bone plates must now be accepted as an established surgical procedure in the treatment of the following affections: 1. Irreducible ileo-colic invagination without perforation or gangrene. 2. Cicatricial stenosis in the ileo-cæcal region. 3. Carcinoma of the cæcum with or without excision of the diseased portion of the bowel.

1. If in an invagination of the bowel in the ileo-cæcal region, the most frequent location where this accident occurs, reduction cannot be effected by rectal insufflation of hydrogen gas made while

the patient is profoundly under the influence of an anæsthetic and held in an inverted position, treatment by laparotomy should be resorted to promptly, and in case disinvagination by direct manipulation is found impossible, and no evidences of perforation or approaching gangrene can be detected, the continuity of the bowel should be restored by an ileo-colostomy without excision of the invaginated portion. The pathological conditions in the invaginated portion of the bowel which render the reduction impossible and which later result in gangrene and perforation are always greatly aggravated by the conditions created by the obstruction. If the obstruction is excluded by establishing an anastomotic opening between the intestine above and below it, the violent peristalsis and distension of the bowel on the proximal side of the obstruction are removed and rest is secured for the invaginated portion, an important element in the prevention of further destructive changes. Ileo-colostomy by approximation plates is made a few inches below the apex of the intussusceptum, and enough of the ileum is excluded so as to prevent any undue tension upon the parts included by the plates. Spontaneous reduction may take place some time after the obstruction has been remedied in this manner, and if this should not occur and the obstruction remains permanently, this procedure has rendered it harmless as far as the fæcal circulation is concerned, while at the same time it has placed the invaginated portion in the most favorable condition to recover from the immediate effects of the strangulation.

2. Enterectomy for cicatricial stenosis should never be practiced, as this operation is attended by a great deal more danger to life than an ileo-colostomy with approximation plates, and the latter restores the continuity of the intestinal canal with permanent exclusion of the seat of obstruction. If the lumen of the bowel can be restored by a plastic operation similar to the one which has proved so successful in the operative treatment of cicatricial stenosis of the pylorus, this should be done in preference to an ileo-colostomy, as the danger incurred is not greater than attends this operation, while it offers all the advantages of an enterectomy minus its dangers. The pyloro-plastic operation devised by Heineke-Miculicz consists simply in incising the strictured portion parallel to the duodenum and pyloric portion of the stomach and uniting the wound transversely by a double row of sutures. The same operation is applicable to narrow strictures of the intestines. If on account of the width of the stricture this operation is not applicable, then the next safest and most efficient plan to pursue is to make an anastomosis between the bowel above and below the stricture with decalcified bone plates, which at once renders the obstruction less by excluding the affected portion of the bowel permanently from the fæcal circulation.

3. The method and advantages of ileo-colostomy in restoring the continuity of the intestinal canal after resection of the cæcum are well illustrated by the two cases reported in this paper. If, after opening the abdomen for the operative treatment of malignant disease of the cæcum, resection is found impracticable on account of numerous adhesions or extensive involvement of the retroperitoneal or mesenteric glands, the seat of obstruction should be permanently excluded from the fæcal circulation by making an ileo-colostomy with approximation plates. This procedure is far preferable to the formation of an artificial anus above the obstruction, as it removes equally well the symptoms of obstruction, doing away at the same time with the inconveniences and disgusting features necessarily associated with an artificial anus. An ileo-colostomy with decalcified perforated bone plates is not a more dangerous operation than the formation of an artificial anus, and the remote benefits which are derived from it are incomparably superior to the conditions created by an artificial anus.

OPERATIVE TECHNIQUE.

Like all other intra-abdominal operations, an ileo-colostomy for any of the above named conditions should always be done under strict antiseptic precautions. The shock following operations in which the peritoneal cavity is exposed for an hour or more is diminished by a subcutaneous injection of morphia and atropia, given just before the anæsthetic is administered. The temperature of the operating room should not be less than 80° F. during the entire operation. If the bowel is permeable a cathartic is given the day before operation and the following morning the colon and rectum are emptied by the use of high enemata, to which is added some harmless antiseptic such as salicylic or boracic acid.

Incision.—In all operations in the ileo-cæcal region the incision should be made not in the median line, but directly over the organ to be operated on. The incision that affords most ready access to the cæcum is one extending from an inch above the middle of Poupart's ligament to a point halfway between the anterior superior spinous process of the ileum and the umbilicus. In making this incision the director should be entirely dispensed with. With a sharp scalpel the skin and superficial fascia are divided with one stroke of the knife, and then one layer after another of the abdominal muscles is divided in a similar manner until the subperitoneal fat is reached. This is picked up with the peritoneum with two toothed catch forceps and the abdominal cavity is opened between them. The hæmorrhage is arrested at every step of the operation by applying to the bleeding points hæmostatic forceps, without losing any time in tying vessels which subsequently may not require ligation. One or two fingers are introduced through the small incision made in the peritoneum, and upon them this structure is divided to the extent of the external wound. After the peritoneal cavity is opened the part to be operated on is brought into the wound and prolapse of the small intestines is prevented by packing aseptic gauze or a clean napkin wrung out of an antiseptic solution around it. If not a sufficient number of reliable assistants are at hand, fæcal extravasation can be effectually prevented by elastic constriction of the intestine above and below where the communicating opening is to be made. The mesentery near the bowel at each of the places is perforated with a closed hæmostatic forceps and with this a narrow aseptic rubber band is drawn through, which is then tied with sufficient firmness to prevent the escape of fæcal matter. If the cæcum is to be excised two additional rubber bands are applied to the part to be removed so as to prevent extravasation from this part, after the bowel is divided. The spaces between the rubber ligatures must be carefully emptied by displacing the contents by passing the intestine between two fingers before the rubber bands are tied. The meso-cæcum must be tied in small sections with firm Chinese silk before the cæcum is removed, as otherwise troublesome hæmorrhage is incurred from slipping of the ligatures. After excision of the cæcum and as much of the colon and ileum as may be necessary, both ends are permanently closed by invagination and a few stitches of the continued suture. The best way to effect invagination is to grasp the margin of the bowel where the mesentery is attached with an ordinary catch forceps and to carry this portion into the lumen of the bowel to the extent of an inch, when the remaining portion of the circumference of the cut end will follow, and by a little manipulation about an inch is evenly invaginated, when the first stitch is made on the mesenteric side in such a manner as to transfix the invaginated mesentery and the muscular and serous coats of the bowel. After this is tied a few more superficial stitches are taken, and the first and last stitch are tied together so as to pucker the end of the bowel somewhat in the manner done in tying a tobacco pouch. In making an anastomosis between the closed end of the ileum and colon after resection of the cæcum both ends should be made to lie side by side with the closed ends in a downward direction, and the surfaces to be united should correspond to the part of the intestine opposite the mesenteric attachment. In making an ileo-colostomy without enterectomy the anastomotic opening must be made at least 2 or 3 inches distant on each side from the part which it is necessary to exclude permanently from the fæcal circulation.

PERFORATED DECALCIFIED BONE PLATES.

After having tried all kinds of material, organic and inorganic, absorbable and inabsorbable, for making the apposition plates, I have finally settled on decalcified bone as the most suitable material. In preparing the plates the compact layer of an ox's femur or tibia is cut with a fine saw into oval plates, ¼ of an inch in thickness, 2½ to 3 inches in length and 1 inch in width. The plates are then decalcified in a 10 per cent. solution of hydrochloric acid, changed every twenty-four hours, until they have become sufficiently soft, so that they can be bent in any direction without fracturing. After decalcification they are washed and immersed for a short time in a weak solution of caustic potash, so as to remove the acid. Until quite recently I dried the plates between blotting paper compressed between two pieces of tin so as to keep the plates from warping during the drying process. The central opening and perforations for the threads were made after the plates were dry. Experience has taught me that it is unsafe to use material for plates which when exposed to the fluids of the intestinal canal will imbibe a sufficient amount of fluids to increase to two or three times in thickness, as such increase in the thickness of the plates may cause a sufficient degree of pressure to cause gangrene of the parts included between them. This happened in at least two of my gastro-enterostomies. Since then I have not dried the plates, but keep them after decalcification in a solution of equal parts of alcohol, glycerine and water which keeps them in a pliable, soft condition, and such plates undergo no change in size after their introduction into the stomach and intestine until they are gradually

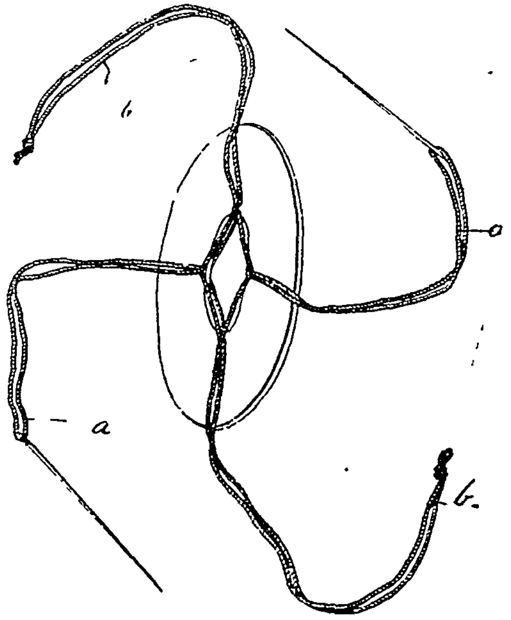

FIG. 1 —Perforated decalcified bone plate, threaded and ready for use. (*a*) Fixation or lateral sutures; (*b*) apposition or end sutures

removed by absorption and disintegration from the third to the tenth day. After the acid has been removed the central oval opening can be readily made with a sharp penknife, and the four perforations around it for the threads are made with a fine drill, and after the plate is threaded it is kept ready for use in the solution first mentioned.

Any one conversant with the manner in which the plates are threaded can keep them in the solution until they are needed. When the plates are to be used they are washed in a 2 per cent. carbolic acid solution and the threads or sutures attached by threading two fine sewing needles, each with a piece of aseptic silk 24 inches in length, which are tied together; the knots become the ends of the end sutures, while the middle of such thread holds a needle and becomes the terminal part of the lateral or fixation sutures. The fastening of the threads upon the plate is done by the lock stitch by another thread passing through the perforations in the shape of a loop and fastened at the back. I now keep on hand three different sizes of the plates. The largest size is used for gastro-enterostomy, the second for intestinal anastomosis, and the smallest plates are intended to be used in operation on children in cases of congenital stenosis of the intestines, invagination and other forms of intestinal obstruction where it becomes necessary to make an intestinal anastomosis. As a rule the central opening in the plate should correspond to the lumen of the organ which has become partially or completely obliterated by the cause which has produced the obstruction. Thus, in gastro-enterostomy the perforation in the plate should be as large as the lumen of a normal pylorus; in ileo-colostomy it should correspond in size with the lumen of the ileum. Messrs. Schorse & Co., 302 Chestnut street, Milwaukee, keep on hand different sizes of the plates preserved in a moist state, ready threaded, and furnish with each pair four straight Hagedorn's self-threading needles. Objection has been made against the bone plates to the effect that they are not always at hand when needed. But like catgut, silk, drainage tubes, and other essential materials used in the treatment of wounds, they should be kept on hand ready to be used in an emergency. The different kinds of rings devised by Abbe, Matas and Brokaw, as substitutes for the bone plates, lack some of the most important advantages possessed by the plates. Catgut is a material which, when brought in contact with the alkaline secretions of the intestinal canal, becomes, in a few hours, so soft and macerated that it cannot be relied upon as a support. All ring supports bring into apposition only a small area of serous surfaces, and the pressure is not equally distributed. Davis' catgut mats are superior to the catgut rings, but the material of which it is composed is so highly hygroscopic that when acted upon by the intestinal contents they swell up rapidly and become as soft as a rag in a few hours. I immersed one of the plates which Dr. Davis kindly sent me in a warm solution of common salt, and in three hours it had increased to three times its former thickness and had become so limpid that in the same condition in the intestinal canal it would furnish little or no support in maintaining uninterrupted apposition. The same objection applies to the catgut rings and catgut mats as to the dried bone plates, that when used in the dry state they increase rapidly in thickness from the imbibition of fluids, and as the sutures are unyielding the pressure thus produced may become a cause of pressure gangrene.

An extensive clinical experience and numerous experiments on animals have satisfied me that thus far no better material has been suggested for making the approximation plates than decalcified bone. Decalcified bone plates kept moist in an antiseptic solution do not increase in thickness by imbibition of fluids when used in the stomach or intestinal canal, and they serve as an efficient mechanical support in bringing together and maintaining accurate coaptation of large serous surfaces which it is intended to unite in establishing an intestinal anastomosis. The decalcified bone plates can be relied upon in maintaining equable surface pressure upon the tissues interposed between them for at least three or four days, which is the time required in obtaining a sufficiently firm union by cell proliferation from the apposed serous surfaces. Indestructible and inabsorbable material should never be used in the preparation of approximation plates, as such substances in the stomach or intestines, where they are used, may cause irritation, or even ulceration and perforation; or they may pass on and become impacted in the narrowed portion of the bowel. Dr. Stamm, of Fremont, O., made plates of the thin portion of the scapula of a calf, and used them in a gastro-enterostomy for carcinoma of the pylorus. The patient died forty days after the operation, and at the necropsy the plate inserted into the stomach was found unchanged in this viscus.

Incision of the bowel.—In ileo-colostomy the bowel is incised on the convex surface opposite the attachment of the mesentery and near the closed end, if the cæcum has been resected, and two or three inches from the obstruction, if the conditions do not require or justify an enterectomy. The incision must be large enough to readily admit the insertion of the plate without using any force, and yet not too large, as, if this mistake is made, the plate may escape through the incision after the sutures have been tied. Hæmorrhage from the visceral wound is usually slight and ceases spontaneously; but should it become necessary to arrest it, it is much better to use the continuous catgut suture than to attempt to ligate the bleeding points. The best way to make the incision is to compress the bowel between the thumb and index finger of the left hand in a direction parallel to the organ, and then with a sharp-pointed bistoury perforate the wall of the bowel and cut from within outwards between the fingers in an upward direction.

Insertion and fixation of the plates.—As the incised bowel is supposed to be empty and kept so either by digital compression or by elastic constriction with a rubber band, there is no danger of fæcal extravasation taking place. Mucus and small particles of fæcal matter are removed with small pledgets of gauze or antiseptic cotton. The plate is inserted while the bowel is held in the same position as when the incision is made. The plate is inserted edgewise, and as it is completely in the lumen of the bowel, traction is made on the sutures in such a manner that the plate makes half a turn, so that its upper surface faces the wound. It is now accurately adjusted, so that its ends are equidistant from the angles of the visceral wound. The plate is then fixed in this location by transfixing the entire thickness of the wall of the bowel near the margin of the wound with the needle attached to the lateral or fixation suture.

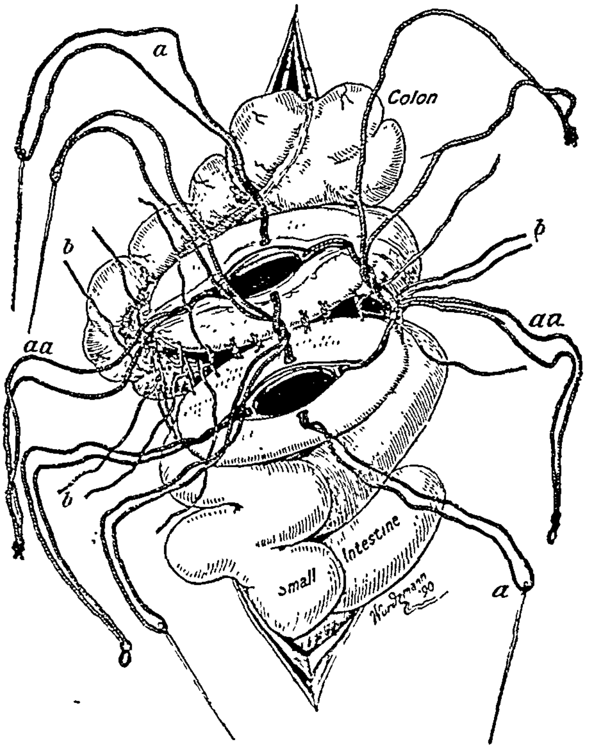

FIG. 2.—*Ileo-colostomy without resection of cæcum.* Showing plates in position, one in the ileum, the other in the colon. (*a*) lateral or transfixion sutures passed through the margin of the wound. (*aa*) end ligatures hanging out of the wound. (*b*) posterior row of superficial or Lembert sutures.

The lateral sutures are intended to draw the margins of the wound asunder after tying, and prevent the slipping of the plates, and for these reasons they merit the designation "fixation suture." The end sutures serve to retract the angles of the wound and assist in holding the coapted parts in apposition after they are tied. After all the sutures are tied the opening presents a diamond-shaped appearance.

Scarification of the serous surfaces.—In ileo-colostomy by approximation plates a maximum area of serous surfaces is brought together and should be kept in accurate contact by the plates until they have united by the interposition of new tissue derived from proliferating endothelial and connective tissue cells. If anything can be done to stimulate the process of regeneration, definitive healing is accomplished in a shorter time. It is a well known fact in surgery that approximation of intact serous surfaces does not result in the formation of a lesion. When the surgeon desires to secure union between serous surfaces he resorts to mechanical irritation for the purpose of inducing a circumscribed plastic peritonitis, which invariably results in adhesions and obliterations of the serous space. Reasoning from this analogy, I was induced to study experimentally the effects of traumatic irritation in hastening the formation of a lesion and cicatrization between apposed serous surfaces. The results of the experiments show that serous surfaces of the intestine which were scarified before apposition was made with bone plates formed adhesions earlier, and the definitive healing was accomplished in a much shorter time, than in cases where the peritoneum was left intact. In most of the cases the inflammatory process was limited to the portion of the bowel interposed between the plates. Without exception the adhesions formed were firmest and the definitive healing was initiated first when scarification was performed, results which clearly demonstrate the fact that the reparative process between serous surfaces which it is intended to unite is hastened by traumatic irritation. Traumatic irritation with the point of an aseptic needle is the most potent means to provoke a circumscribed plastic peritonitis, and is followed within a few hours by a copious exudation of plastic lymph, which, like a cement substance, mechanically agglutinates the coaptated surfaces. The same measure, by destroying the continuity of the non-vascular endothelial layer of the peritoneum, brings at once in contact the vascular network of both sides and opens up a direct route for the new vessels, an important element in the rapid healing between the surfaces held in contact by the plates. Davis, of Birmingham, has made some adhesion experiments by scratching off the endothelial lining of the peritoneum, and claims that adhesions form more rapidly than after scarification. I should not feel warranted in depriving the peritoneum of the histological elements which, above all others, take the most active part in the production of new tissue. In inflamed serous surfaces karyokinetic figures are seen earliest in the endothelial cells, and the inflammatory product from the fixed tissue cells are derived largely from this source. Scarification inflicts the necessary degree of traumatic irritation without loss of tissue, upon which depends so much in the subsequent process of repair. When the plates are *in situ* the serous-surface of the bowel over an area corresponding to the size of the plates should be scarified with an aseptic needle. The scarification should not be so deep as to cause bleeding, but only deep enough to tear the endothelial lining. I am in the habit of making straight lines, which are crossed by other lines, mapping out, as it were, the endothelial surface into small squares representing a diminutive mosaic pavement.

Approximation of the intestines.—After both surfaces have been thoroughly scarified the intestines which it is intended to unite are brought together by an assistant in such a manner that the two wounds are directly opposite each other.

The approximation sutures are now properly arranged so that when they are to be tied the corresponding threads can be readily found. Before any of the sutures are tied it is well to unite the serous surfaces along the posterior margins of the plates with a few superficial sutures. (Fig. 2 b.) After this has been done, the posterior pair of fixation sutures is tied with sufficient firmness to approximate, but not to compress, the parts between them. The sutures are to be tied always in a square knot so as to prevent slipping of the knot. Next the pair of end sutures away from the operator is tied, and when this has been done the opposite pair is tied. All of the sutures are cut short as soon as they are tied. The last sutures to be tied are the remaining fixation sutures, and while these are being tightened the margins of the bowel are inverted between the plates with a director or probe. The cut ends of the last knot are pushed with a probe towards the opening. Approximation has now been completed and all that is left is to reinforce the action of the plates by suturing the serous surfaces over the anterior margins of the plates by a few stitches of the continued suture.

The part of the intestine exposed during the operation should now be thoroughly cleaned by irrigation with sterilized hot water, and after being well dried with an antiseptic sponge or dry gauze, the part clamped together by the bone plates is ready to be replaced into the abdominal cavity after having first thoroughly cleansed and dried the iliac fossa.

Anchoring of the seat of anastomosis.—As the blind end of the colon is to serve the part of the artificial cæcum in the future, and the new opening will serve as a substitute for the ileo-cæcal

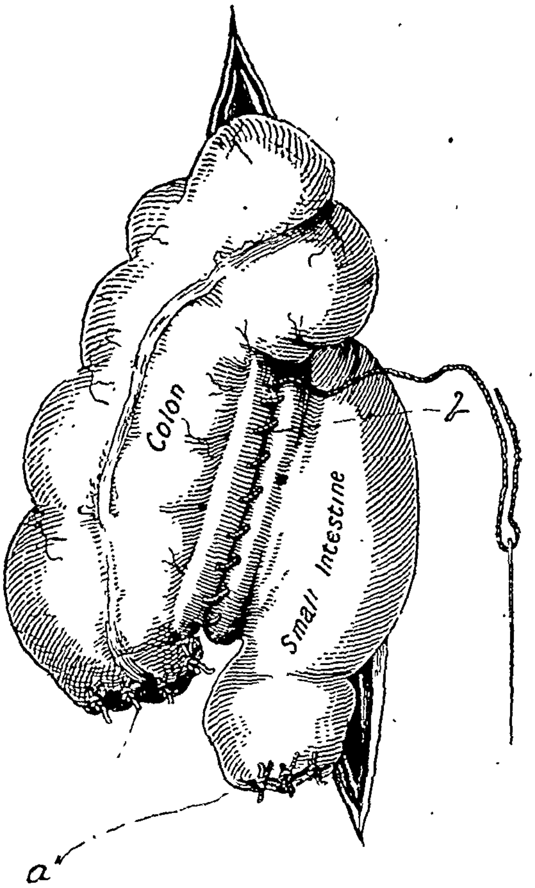

FIG. 3.—Ileo-colostomy as seen after resection of the cæcum. (*a*) Closed ends of the colon and ileum directed downwards; (*b*) serous surfaces over the anterior margins of the plates united by a number of stitches of the continued suture.

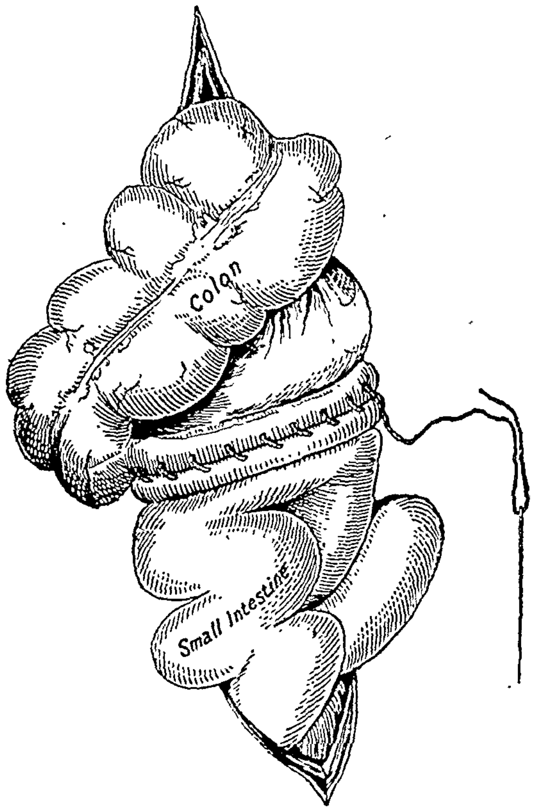

FIG. 4.—Ileo-colostomy, completed as seen without resection of the cæcum.

opening, these parts should be assigned the place occupied previously by the organs removed. Anchoring of the seat of anastomosis in the ileocæcal region is an important step of the operation, as it will secure the most favorable anatomical and physical conditions for restoration of the normal fæcal circulation, and will at the same time keep the parts in the neighborhood of the wound, an important matter should anything go wrong at the seat of operation. Should perforation or suppuration occur these conditions are more readily accessible and can be more efficiently dealt with in the right ileac region than if the anastomosed parts are dragged away into some more remote part of the abdominal cavity, perhaps buried among a number of coils of the small intestines. The anchoring can be readily done by passing a small suture through the mesentery in the direction of the blood-vessels opposite the new opening on one side and through the peritoneum and the subserous structures at the proper point of the other, and tying with sufficient firmness to bring the parts into apposition. Scarification of a limited area of peritoneum on both sides will hasten the formation of adhesions and increase their power of resistance.

Drainage—Drainage is always indicated when a considerable portion of the retro-peritoneal space has been laid bare, and it could never be dispensed with if in the course of a resection of a considerable portion of the large intestine where many ligatures have to be used in controlling the hemorrhage from the mesenteric vessels. If the incision is made in the inguinal region efficient and direct drainage can be established through the lower angle of the wound. The best drainage is secured by combining tubular with capillary drainage. This can be done by protecting the intestines and the peritoneum in the vicinity of the lower portion of the wound with several layers of idoform gauze, which is used in the form of a ring through which is inserted a glass drain, the size of the little finger, with small lateral perforations in its distal end. A glass drain should reach sufficiently far to carry away the wound secretions from the seat of visceral approximation. With the bowel anchored in the ileocaecal region, the gauze tampon surrounding it, and the glass drain in close proximity, abundant precautions have peen provided for to prevent the accumulation of intra-peritoneal effusion, and in the possible event of fæcal extravasation a direct outlet for its escape has been established. Unless special indications arise, drainage can be dispensed with after the third day, as at this time firm adhesions between the apposed intestines have taken place, and transudation will have ceased.

Closure of abdominal incision.—The closure of an incision in the abdominal walls in any other place than the median line requires special care. An incision through the different muscular layers of the abdominal wall closed in the ordinary manner with one row of sutures is very liable to be followed later by the formation of a ventral hernia, on account of the peritoneum on each side of the wound becoming everted, thus interfering with the accurate coaptation of the muscular layers and the resulting cicatrix only too often permanently separates the muscles. To prevent the interposition of the peritoneum between the muscles it is absolutely necessary to unite it separately with fine silk sutures, which are cut short and buried. The remaining portion of the wound can be accurately approximated by a second row of sutures. These sutures should not include more than *one-twelfth* of an inch of the skin and embrace all of the muscular layers. If, as is usually done, more skin is included, there is danger of the skin becoming inverted, which again interferes with an ideal healing of the wound. A few superficial stitches between the deep sutures will secure accurate coaptation between the superficial portion of the margin of the wound.

Dressing of the wound.—In operations where drainage is unnecessary the wound is dusted with iodoform and covered with a strip of protective silk. Several layers of iodoform gauze are then applied and over these a thick compress of salicylated cotton, all of which is retained by a number of strips of rubber adhesive plaster, long enough to encircle two-thirds of the circumference of the body. As an additional protection against subsequent infection, and as a means of exercising equable compression, a thick layer of ordinary cotton is applied over this dressing and retained by an ordinary abdominal binder or roller bandage. If it is necessary to establish drainage a somewhat similar but less bulky dressing is applied, but a space is left for the drainage tube which is kept aseptic by keeping it closed with a plug of antiseptic cotton. This is removed as often as required, every three to six hours, and the fluid which has accumulated is withdrawn with an ordinary syringe to the nozzle of which an aseptic rubber tube is attached. I have always been in the habit after exhaustion of the glass tube to fill it again with a warm physiological solution of salt which is withdrawn in a similar manner.

After-treatment.—During the first twenty-four hours the patient is nourished exclusively by rectal feeding. Thirst is quenched with small pieces of ice in the mouth, sipping of hot water, and if there is much prostration, brandy and water are given. Peristaltic action of the bowels is suspended by a few small doses of opium. The bowels should not move for at least forty-eight hours. Should at this time tympanites set in, a mild laxative, such as castor oil or one of the mild saline cathartics, can be given, and the action hastened if required by a small stimulating rectal enema. On the second day small quantities of fluid nourishment can be given by the mouth, and in the course of a week a light solid diet is prescribed. The sutures are removed at the end of the first week, but the external support by strips of adhesive plaster and a well-fitting binder must be continued until the completion of the definitive healing of the abdominal wound which requires at least three weeks. The patient should not be allowed to sit up or leave his bed before the expiration of this time. The plates will come away with the fæcal discharges about a week after the operation.

CONCLUSIONS.

1. Resection of the cæcum for carcinoma can be done with a fair prospct of a permanent cure if the operation is performed before infiltration of the retro-peritoneal and mesenteric glands has occurred.

2. Ileo-colostomy with absorbable perforated approximation plates is the best method of restoring the continuity of the intestinal canal after excision of the cæcum.

2. The best material for approximation plates is decalcified bone preserved in an antiseptic solution.

4. Hygroscopic and indestructible or inabsorbable material should not be used in the preparation of approximation plates or rings as the former may cause pressure gangrene, and the latter may prove a source of danger by remaining permanently as a foreign body in the organ in which it has been introduced.

5. Ileo-colostomy without resecection of the cæcum is indicated in cases of intestinal obstruction from inoperable carcinoma of the cæcum, irreducible invagination without perforation or evidences of gangrene and in cicatricial stenosis in the ileo-cæcal region not amenable to a plastic operation.

6. Scarification of the serous surfaces interposed between the bone plates is the most reliable means of hastening the formation of adhesions and of shortening the process of definitive healing.

7. Resection of the cæcum and ileo-colostomy with or without enterectomy should be done through a lateral incision, extending from near the middle of Poupart's ligament to a point halfway between the anterior superior spinous process of the ilium and the umbilicus.

8. Suturing of the serous surfaces just beyond the margins of the bone plates renders material aid in maintaining apposition between the serous surfaces which it is intended to unite and furnishes an additional safeguard against fæcal extravasation.

9. Anchoring of the approximated parts in the ileo-cæcal region with a mesenteric-peritoneal suture should be done in ileo-colostomy after resection of the cæcum.

CONCUSSION OF THE SPINAL CORD, BRAIN, ETC.

Read in the Section of Surgery and Anatomy at the Forty-first Annual Meeting of the American Medical Association at Nashville, Tenn., May 20, 1890.

BY B. A. WATSON, A.M., M.D.,
SURGEON TO THE JERSEY CITY AND CHRIST HOSPITALS, JERSEY CITY, N. J.

The term "concussion of the spinal cord" is commonly used in a very loose and indefinite manner. In some instances its use is restricted to those cases in which the functions of the cord are temporarily disturbed, independently of any discoverable lesions; while in other instances it is made to include cases in which there are hæmorrhagic extravasations into the substance of the cord, or even a contusion of its membranes. Mr. Erichsen has employed the term in even a broader sense than that which includes the punctate hæmorrhages, etc., since he embraces the following conditions: 1. A functional disorder. 2. Compression of the cord from extravasation; compression of the cord by inflammatory exudations; nutritive cord alterations. It is therefore apparent that Mr. Erichsen, when he employs the term "concussion of the spine," intends to include all morbid conditions arising either primarily or secondarily from traumatic injuries not connected with fractures or dislocation of the vertebræ. In our consideration of "Concussion of the Spinal Cord, Brain, etc.," we shall include all those morbid and pathological conditions arising from the application of concussive force to these organs. By concussive force we mean that agitation communicated to one organ by a fall or blow upon another. For the purpose of illustrating this idea, let the force be applied to the nates while the spinal column is maintained in an erect position, then there will be carried along this bony structure a vibratory motion which will also be imparted in varying degrees to the adjacent soft parts. A careful study of the anatomical structure of the spinal column and cord, their relation to each other, and likewise their relation to other organs, especially the brain, lungs, liver and kidneys, when examined in connection with the seat of the application of the concussive force, possesses a very high degree of interest. It will be readily observed that the normal curves of the spinal column cannot fail to exert an influence on the localization and character of the pathological lesions produced by a concussive force applied to the nates. It is likewise true that these curves exert a modifying influence on *all the lesions* resulting from concussive force; but the same can only be intelligently studied when the surgeon fully understands the nature of the power employed and the locality to which it has been applied. In order to illustrate this subject more clearly the reader's attention is directed to the following cut, in which the antero-posterior curves of the spinal column may be studied These curves correspond to the different regions of the column, and are designated cervical, dorsal, lumbar and pelvic.

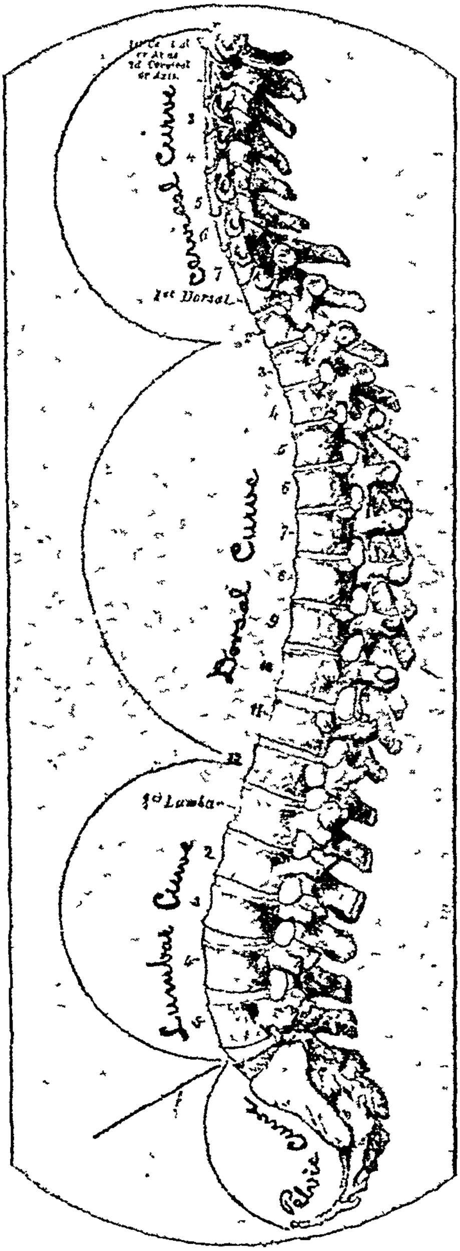

FIG 1—Lateral view of the spine

The examination of this figure makes it readily apparent that if the concussive force is applied to the nates while the spinal column is maintained in the erect position, the greatest power will be brought to bear on the sacro-vertebral articulation. The chief factors entering into this calculation are leverage and the superincumbent weight of the body. It likewise logically follows that if the centre of gravity be thrown either forward or backward the resulting traumatisms may be materially modified. I am now prepared to show by the results of numerous experiments that the conclusion which I have expressed is strictly correct

In a brochure which I have recently published, entitled, "An Experimental Study of Lesions Arising from Severe Concussions," there will be found a report of 141 experiments. In 135 of these experiments the concussive force was received on the nates, and besides the other traumatisms thus produced there were eleven cases of rupture of the spinal ligaments, and ten of this number occurred at the sacro-vertebral articulation, and the other between the fifth and sixth cervical vertebræ. It was still further observed that in six cases there was a considerable amount of blood extravasated within the pelvic cavity, and in five cases there were ecchimoses in the psoas muscles. The examination of the report of these experiments also shows that there were four cases of fractures involving the spinal vertebræ, and two of these were located in the lumbar region. I think it will now be readily admitted that true concussive force exerts the highest possible degree of potency on the spinal cord when applied to the nates while the body is maintained in the erect position; and, furthermore, that the most marked and numerous traumatic lesions observed in these cases are associated with injuries of the spinal column in the lumbar region. Let us now enter on the consideration of several important questions bearing on the etiology of spinal concussion.

1. Are there any cases of this morbid condition arising from concussive force in which the functions of the spinal cord are temporarily disturbed, independently of any discoverable lesions?

2. Are any of the following pathological conditions, viz.: punctate hæmorrhages, hyperæmia, blood in the perivascular spaces of the gray matter, etc , ever produced by concussive force while the bony walls of the spinal column and the ligaments of the same remain in the normal state?

3. How, and by what sort of force, are these morbid conditions most frequently caused?

Let us here attempt a seriatim reply to these queries. I therefore think it wise to inform my hearers that in my consideration of these questions I shall view my subject from the standpoint of a surgeon, rather than that of an alienist. The essential difference between the surgeon and the alienist is that the former presents his views from the standpoint of demonstrated facts, while the latter accepts a theory and then attempts to make all else conform to the god which he has erected. In other words, surgery is to-day essentially an exact science, while insanity rests entirely on a speculative basis, and, therefore, it can only be regarded as a pseudo science.

It will be here observed that when this question is examined from a pathological standpoint there *can be only negative evidence adduced*, and this would scarcely justify an affirmative answer. My experimental studies have added nothing in the affirmative, but, on the contrary, have materially strengthened the negative side of the question. I am therefore constrained, by the want of space, to answer this question negatively, although it is quite possible that by so acting I open myself to the charge of dogmatism.

In attempting an answer to the second query I shall preface my efforts by calling attention to the anatomical structure of the spinal column and cord, and their relations to each other, and afterwards bring forwards the results of my experimental studies for the further elucidation of this important question.

It can be readily seen that no part of the human skeleton plays a more important rôle in the preservation of life by protection of vital organs than the spinal column. Within this bony column is situated the spinal canal, beautifully and perfectly arranged for the reception of the spinal cord. This highly important structure is composed of thirty-three vertebræ, and these are artistically and strongly fitted together in such a manner as to allow every necessary movement, since the spinal column is both flexious and flexible. The articular surfaces of the vertebræ are covered with cartilages exactly suited to their wants. The various bony processes projecting from the vertebræ serve as the point for the attachment of muscles, and at the same time as a *cheval de frise* in warding off blows from the citadel. The numerous heavy muscles of the back serve to cushion externally, and thus protect the spinal column. In addition to this they afford a support and protection to the deeper seated tissues, and likewise give the required motions.

The segmentation of the spinal column possesses, in some cases, when the concussive force is applied in certain directions, a highly important modifying effect. The cartilagenous coverings of the articular surfaces, and also, to some extent, the osseous structure of the vertebræ themselves, act as cushions or buffers, by which the concussive force is greatly diminished at each articulation. This principle has been long understood, and is now generally applied to all the passenger trains on railways. Let us now present a few practical points connected with the anatomy of the spinal canal and the spinal cord, without entering into a full consideration of the anatomical structure of these parts, which can be readily examined by a reference to the text books on this subject. The spinal canal serves for the passage of the spinal cord, and presents everywhere a markedly smooth and even surface, which is lined by the medullary membrane. It is also so large that the spinal cord and its membranes are at no point adherent or in contact with it; in fact they do not nearly fill it. The bony wall of this canal is everywhere cushioned with connective or adipose tissue, and the intervening space is filled with spinal fluid. The spinal cord is wrapped by the spinal membranes, and this is surrounded by the spinal fluid, and every vertebral nerve is so placed as to act as a most efficient stay, thus preventing any swaying or other motion. Dr. Byron Bramwell, of Edinburgh, says: "The relationship of the cord and the nerve roots to the spinal membranes (dura, arachnoid and pia) is of great practical importance, and is as follows: The spinal dura mater is a dense, tough membrane, which is loosely attached externally to the bones of the spinal canal, being separated from the periosteum by loose areolar tissue, fat cells and blood vessels, which forms a loose covering or sheath for the spinal cord and its nerve roots, surrounded by the pia, arachnoid and spinal fluid."[1] The following illustration, it is thought, will greatly facilitate the study of the relationship of the cord and nerve roots to the spinal membrane, while it also affords a very correct idea of the relation of the spinal cord to the spinal column and other important parts.

Let us now turn our attention to certain anatomical peculiarities which possess important relative bearings on concussion in these organs. We have already observed that the spinal cord is wonderfully protected against any injury from concussive force. It will now be seen that the anatomical peculiarities of the surroundings of the brain especially endanger the safety of this organ from that force. It is stated in the standard text books on human anatomy that the weight of the spinal cord is about thirty-three per cent. of the weight of the brain.

The weight of the brain, being so much greater than that of the spinal cord, increases greatly the liability of this organ to injury from concussive force. All the advantages arising from the buffer action, which has been previously mentioned, is lost, in case the concussive force is applied to the cranium, and the whole momentum of the blow will be transmitted directly from the skull to the encephalon.

Furthermore, we have called attention to the fact that the spinal canal is everywhere cushioned with areolar and adipose tissue, and likewise that the space intervening between this bony wall and the spinal cord is filled with spinal fluid. The encephalon, on the contrary, possesses no such protection against concussive force. In this case the membranes of the brain are placed in immediate contact with the bony walls of the cranium, without the intervention of soft tissue cushions or the presence of a water bed. The following cut presents a view of a portion of the encephalon, and likewise the entire spinal cord in its relation to the spinal nerve roots and some of the other surrounding parts.

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[1] "Diseases of the Spinal Cord," p. 14 *et seq.*, 2d edition, 1884.

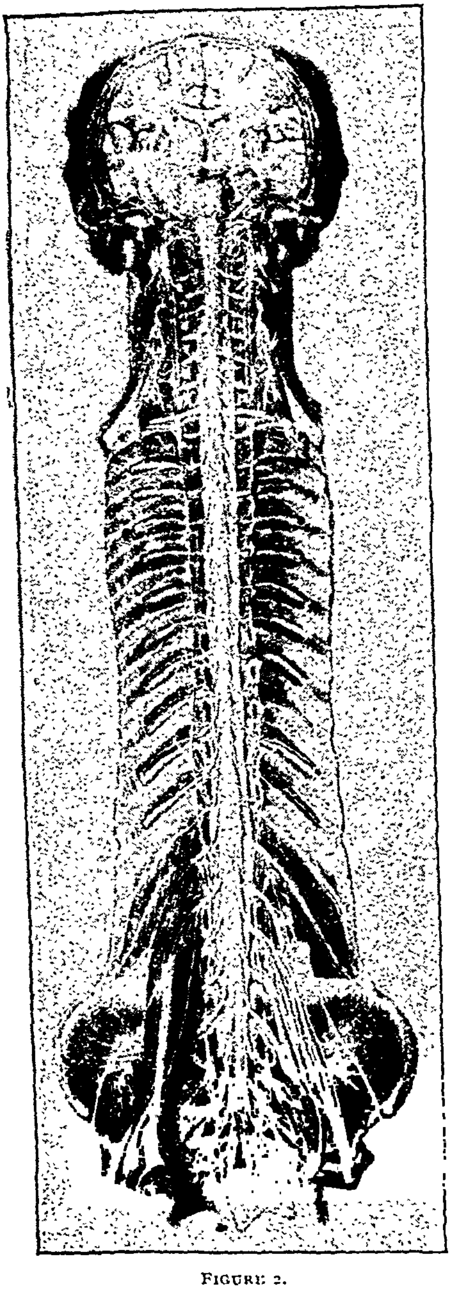
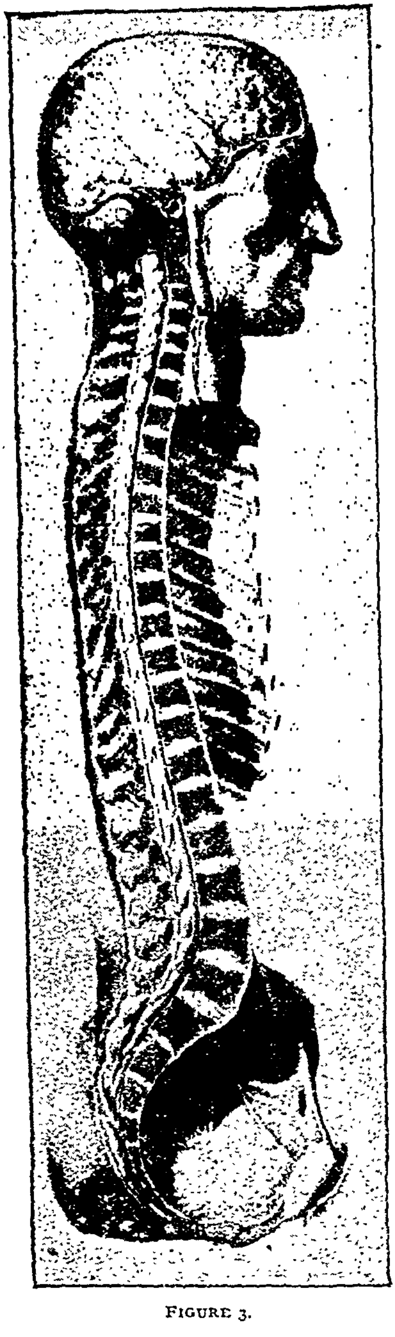


FIGURE 2.

Our own experimental work was done on dogs; and, therefore, that the anatomical peculiarities of these animals may be compared with those of man, we have here introduced the following illustration, which presents both the anterior and posterior view of the spinal cord, spinal nerve roots, etc.

The whole number of these experiments were 141, but there were only 46 of these cases in which pathological lesions were produced in the cerebro-spinal axis or its membranes.

There were twenty of these forty-six cases in which the post mortem examination distinctly revealed a want of continuity in the spinal column, and these complicating injuries were as follows: Rupture of the vertebral ligaments, 11; fractions involving the bodies of the vertebræ, 5; stretching of the vertebral ligaments, 4. It will now be observed that there are twenty-six cases in which the spinal column apparently remained uninjured. There were four cases in these twenty-six which were complicated with



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[1] "Diseases of the Spinal Cord," p. 14 *et seq.*, 2d edition, 1834.

It will be observed that these quotations from Mr. Erichsen's work are not in harmony with the statements made by Dr. Dandridge. In fact we discover here about the same difference which marks the writings of the first half of this century on abdominal surgery, and those of the present day on the same subject. My own experimental studies have an important bearing on this matter of difference between Dr. Dandridge and Mr. Erichsen, and therefore I shall here state briefly some of my observations. Permit me, therefore, to transcribe from my brochure the following:

February 11. Experiment 4. Normal condition; mongrel, bull, male, æt. about five years; weight, 51½ pounds; temperature, 102.2°; pupils natural; traumatized. The animal walked with some difficulty, apparently weakened in the hind legs. Pupils were slightly dilated.

Feb. 12. Temperature, 102°; pupils normal; the symptoms more marked to-day than yesterday. The animal stood on his hind legs with much difficulty; walked with an unsteady gait; toilet neglected; eyes dull; ate and drank, and was evidently suffering from incomplete paraplegia.

Feb. 13. Temperature, 101°; pupils normal; some slight improvement in other respects.

Feb. 14. Temperature, 100.5°; pupils normal; ate and drank fairly well.

Feb. 15. Temperature, 101.8°; pupils normal.

Feb. 16. Temperature, 99°; pupils normal. There had been some improvement in the paraplegia.

Feb. 17. Temperature, 100.6°; pupils normal.
Feb. 18. Temperature, 100°; pupils normal.
Feb. 19. Temperature, 102°; pupils normal.
Feb. 20. Temperature, 100.7°; pupils normal.
Feb. 21. Temperature, 100°; pupils normal.
Feb. 22. Temperature, 101°; pupils normal.
Feb. 23. Temperature, 100.8°; pupils normal.
Feb. 24. Temperature, 101.6°; pupils normal.

Post mortem.—This autopsy was made promptly after the examination recorded on the 24th. There was found a simple fracture of the body of the last lumbar vertebra, external to which was a large blood clot, some part of which had evidently been absorbed, while the cauda equina showed signs of pressure from the coagulated blood, but none of an inflammatory character. There was also congestion of the cortical substance of both kidneys and the lining membrane of the bladder.

Microscopical report.—The brain was incised in several places, and it was found to be moderately hyperæmic; otherwise normal. There was general hyperæmia of the cord. The ganglionic cells were less distinct than in normal cords, less defined from their surroundings. The nerve ends were less sharply defined in the anterior and posterior columns, near the median commissure, than in the rest of the cord. This was more marked in the lumbar region.

Observations.—It is highly important to observe that in the case of this animal, the improvement was steady after the third day of the receipt of the traumatism until his death. In fact, so marked had been the progress, that I am fully assured, that had the dog been left to unaided nature, he would have entirely recovered. I will also add to the above record a few extracts from the same source, which will include *all the other cases* of fractures involving the spinal column which occurred in my 141 experiments. . .

First Series.—Experiment 3—traumatised—complete paraplegia. The hind legs absolutely powerless, but the animal drags himself, with much effort, over the floor with his fore legs.

Post-mortem.—This examination revealed a comminuted fracture of the spinous process and body of the seventh dorsal vertebra. The spinal cord was exposed, and found to be completely crushed at this point, showing the result, likewise, of inflammatory action in the congested and softened condition, which extended in both directions away from the seat of injury one inch or more.[3] . . .

Microscopical Report.—There was a break in the dorsal region of the cord. Above and below this break the cord was softened and intensely hyperæmic. The central canal was dilated with blood. The cord was intensely hyperæmic throughout. In the cervical and lower lumbar regions no special change was noticed except the hyperæmia.

Second Series.—Experiment 2. . . . Traumatised—Paraplegia. . . . Post-mortem.—This examination revealed the following: A simple fracture in the body of a vertebra, in the upper half of the lumbar region; the injury to the spinal cord was very marked at this point. There was likewise found within the peritoneal cavity about two ounces of coagulated blood directly over the psoas muscles; these muscles were ecchymosed, the right more than the left. Both kidneys were congested. Meninges of the brain congested, especially over the occipital region; spinal cord in a similar condition. . . .

Microscopical Report.—Brain intensely hyperæmic otherwise normal. The cord was hyperæmic throughout. It had not hardened well, and the outlines of the fibres were *indistinct*, whether cut longitudinally or transversely. The ganglionic cells were perfectly distinct.

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[3] The above record will, it is thought, enable the reader, to form his own opinion in regard to the causation in these cases, while the whole number interrogated is limited to six. The total number which terminated quickly in death were eight, while there were only four of these, in which there were found any lesions in the cerebro-spinal axis. See brochure, page 71, for complicating lesions.

Experiment 5.—Traumatised—Incomplete paraplegia; pupils moderately dilated. Post-mortem.—This examination revealed the following lesions: Congestion of both kidneys; in the pelvic cavity there was a quantity of extravasated blood, a deep ecchymosis involving the whole of the left psoas muscle, marked congestion of the meninges covering the vertex of the brain, and a slight congestion over other portions, the brain itself somewhat hyperæmic, cranial fluid increased in quantity. The spinal cord was likewise hyperæmic. A comminuted fracture of the body of the last lumbar vertebra and the presence of a blood clot within the canal at this point. . . .

Microscopical Report.—"The material was not received." The injuries described in Experiment 3, First Series, would have sooner or later caused the death of the animal; but in the other cases recovery would have been the final termination in each instance. It would be very interesting in this connection to take up separately the eleven experiments in which there was a rupture of vertebral ligaments, in order to show the nature of the pathological lesions in each case, and likewise the other complications; but space will not permit; and therefore it is sufficient for me to say, that in each instance the improvement had been so marked before the animal was killed, as to justify me in asserting, that all of these animals would ultimately have recovered.

There still remains a single point connected with fractures and other lesions of the spinal column, to which I desire to call especially the attention of surgeons. My experimental studies have conclusively shown that in all severe injuries of the spinal column, cord, etc., there are complications involving more or less seriously, the organs within the thoracic, abdominal or pelvic cavities. I know of no reason why there should not be found similar complications in the human subject. In fact, I think it will be discovered when sought for in connection with spinal lesions.

MEDICAL PROGRESS.

THE CONFLICT WITH PULMONARY TUBERCULOSIS.—In a paper read before a medical society of St. Petersburg, DR. MAX SCHMIDT describes all the modern methods employed in the treatment of tuberculosis, including Weigert's inhalations of hot air. He concludes that nearly all these remedies are inefficacious because they cannot be applied in sufficient strength without injury to the patient, or because they fail to penetrate the tissues sufficiently to reach the bacilli. It remains for phthisical subjects then to content themselves with caring for their health by means of the inhalation of relatively pure air, free from dust, by good strengthening nourishment, and by strict attention to the hygiene of the body. The author agrees entirely with Cornet regarding the etiology of the disease.

RENAL COMPLICATIONS IN WHOOPING-COUGH.—Some time ago DR. STEFANO MIRCOLO, in *London Med. Recorder*, pointed out that he had several times observed renal complications in whooping-cough. Thus, on one occasion, among ten children suffering from the disease, nephritis occurred in two cases, one of which died. The necropsy left no doubt as to the existence of the renal affection. During another outbreak, among thirty-seven cases nephritis developed in four. Two of these died, and in one a post-mortem examination was made. The kidneys were examined microscopically, and were seen to be in a

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EXPLANATORY NOTES AND REFERENCES.—A brochure entitled "An Experimental Study of Lesions Arising from Severe Concussions," by B. A. Watson, M.D., p. 67 *et seq.* Philadelphia: P. Blakiston, Son & Co.[1] The report of these cases may be found by a reference to Nos. 20, 22 and 35, First Series, and No. 64, Second Series. The immediate cause of death in case "No. 20 was a rupture of the aorta." . . . . In 22 it was "chiefly due to deep lacerations in the lungs, injury of the liver, etc."

"The cause of death in the 35th Experiment existed in the rupture of the right auricle and left pulmonary artery." "In the 64th Experiment the cause of death was the laceration of the liver, which gave rise to a profuse hæmorrhage, although there were hæmorrhagic infarctions in the lungs and a pre-existing pneumonia;" . . . . "The spinal and brain complications in the above-mentioned cases were as follows: In Experiment 22 there was intense hyperæmia of the brain and spinal cord, while in the 20th and 35th Experiments there were found small hæmorrhages into the gray matter of the cord. The complication in the 64th Experiment consisted of distension of the vessels of the membranes of the spinal cord, which had ruptured in several places, and hæmorrhages of small size had occurred in the surrounding tissue."

These forty-six cases of pathological changes involving the various parts of the cerebro-spinal axis occurred as follows: (1) brain, 1; (2) brain and spinal cord, 12; (3) spinal cord, 15; (4) cauda equina, 2; (5) membranes of the brain and spinal cord, 3; (6) Brain and spinal cord? 2; (7) brain and cauda equina? 1; (8) spinal cord? 2; (9) brain? 1; (10) spinal cord and the membranes of the brain, 5; (11) membranes of the spinal cord? 1; (12) membranes of the brain and spinal cord? 1.

The attention of the reader is here called to the fact that in my brochure I have stated that there were fifty cases in which pathological changes occurred in the cerebro-spinal axis, but a more careful examination of these reports justify me in limiting the number to forty-six.

[2] It will likewise be observed in the above classification of these pathological changes that in some instances the interrogation point has been placed after the classification clause. In the cases thus marked the author thinks there is a reasonable doubt whether the pathological changes observed were due to the traumatism or other complicating factors. Thus, in Experiment 10, First Series, the following facts are recorded: Post mortem.—"Visceral organs of the thorax and abdomen healthy, with the exception of the kidneys, which are both in a state of cystic degeneration. The meninges of the brain seem to be congested. The quantity of cerebral fluid apparently somewhat increased. No softening (apparent to the unaided eye) of the brain and spinal cord. . . .

Microscopical Report.—Brain moderately congested. There are a few punctate hæmorrhages in the anterior horns of the lumbar region of the cord. The cord is hyperæmic throughout, but less so than in experiment 22." The record in the 17th Experiment, Second Series, reads as follows: Post mortem.—"This examination revealed the following lesions: Rupture of the bladder, abdominal cavity distended with urine, the organs contained within it all more or less inflamed, lungs contained numerous hæmorrhagic infarctions and were considerably inflamed. The meninges of the brain were markedly congested, blood clot of considerable size beneath the dura mater, spinal cord seemed congested. . . ."

Microscopical Report.—"The brain is intensely hyperæmic; there is no lesion of the nerve cells or fibers. There are hæmorrhages in the meshes of the fibrous tissue of the dura mater and upon its inner surface. The vessels of the cord are very greatly distended with blood, but there are no hæmorrhages and no lesions that can be distinguished in the ordinarily stained sections."

condition of severe parenchymatous nephritis. No microörganisms could be seen. Recently Dr. Mircolo has brought forward additional evidence on the subject. In a recent epidemic at Monterrubbiano, of twenty-four patients, three died—one from suppression of urine, another from suffocation in a paroxysm of coughing, and a third from marasmus. In the two latter cases, although during life there were no symptoms of renal affection, on post-mortem venous stasis in the kidneys with commencing albuminuria was found. There was also a considerable amount of hæmorrhagic infiltration. Cultures of the kidney tissues gave negative results. Dr. Mircoli believes that the renal affection is due to venous stasis caused by obstruction of the vena cava through the violent paroxysms of coughing. According to him the kidney is affected, in whooping-cough, in 12 per cent. of cases occurring in children.—*Archives of Gynecology.*

ANTIPYRESIS.—DR. RIESS, of Berlin, believes that the antipyretic treatment of infection fever is the best method at our disposal. The neglect of this treatment in German practice during recent years has arisen rather from theoretical objections to its use than from practical experience. Certain views regarding the etiology of various infective diseases which have been derived from bacteriological study and which *a priori* oppose antipyretic treatment rest, in reality, upon an unsubstantial basis. Thus, the teaching that the rise of temperature from fever is a beneficent reaction of the organism against the morbific agent, finds only slight support in the investigations which have hitherto been made concerning the biological properties of the pathogenic microörganisms. Opposed to these are the well known experiments made thirty years ago regarding the favorable influence of antipyretic methods of treatment, such as the cold water treatment of typhoid fever. The author makes mention of the method which he has employed for many years with excellent results, *i. e.*, the permanent or protracted employment of tepid baths. The application of these is very simple. A temperature of 31° is suitable for the bath. When the bodily temperature falls to 37.5° or lower the patient is removed from the bath; if it rises above 38.5° he is again placed in the bath. If the temperature falls too slowly in the bath an occasional moderate dose of an antipyretic is given internally. In this manner the writer has treated over 1,000 cases of fever (inclusive of 809 cases of typhoid) in the Friedrichshain Hospital of Berlin. The author refers in detail to the most satisfactory experience which he has had in the use of the permanent tepid bath. By this method it is an easy matter to reduce the temperature and keep it at nearly the normal. The permanent baths are only required, as a rule, during the first few days, after which their duration is shortened until finally only a short evening bath is required. The mortality in this method has been 8.5 per cent., which corresponds to the lowest figures obtainable in the larger hospitals of Berlin. The average duration of the disease is shortened, the course is milder, the cerebral disturbances are surprisingly modified, complications and sequelæ are less numerous, relapses occurred in only 2.6 per cent. of the cases and were generally of a light character. Other acute diseases are also amenable to this method of treatment. The author believes that until we can find some causal antipyretic therapy for the diseases of infection, we must retain the symptomic method of treatment, to abandon which would be a most decided mistake.—*Wien. Med. Woch.*

THE PHYSIOLOGICAL ACTION OF CAFFEINE.—Messrs. SÉE and LAPICQUE have formulated the following conclusions as the result of their study of the action of caffeine:

1. Caffeine in small repeated doses amounting to 60 centigrams per day may be advantageously prescribed to soldiers on the march, as it increases muscular action and promotes the activity of the motor nervous system, both cerebral and medullary. The result of this double action is to diminish the sensation of effort and to prevent fatigue.

2. It prevents shortness of breath, with resultant palpitation.

3. In this manner it supplies vigor to one who is engaged in severe and prolonged exercise.

4. By producing this excitement of the cerebrospinal motor system, upon which the increase of muscular tonicity depends, caffeine increases the consumption of carbon in the organism, and especially in the muscles, but does not diminish the loss of the nitrogenous elements, and is not an economizing agent.

5. Economy in general cannot be effected, in the case of the higher animals, in a complete manner, so as to prevent the disagreeable effects of fasting, except under conditions which cannot be realized—inaction or immobility. With caffeine the very opposite is observed; that is to say, stimulation that can only be maintained at the expense of the organism. It is by increasing combustion that caffeine promotes muscular activity.

6. Caffeine possesses no mysterious properties that enable it to replace food; it only substitutes the general tonic excitation that is produced by the ingestion of food. If, indeed, we admit that it is the immediate action of food that stimulates the stomach and nervous system, and that the immediate alimentary value of food is nothing, we could substitute one stimulant for another. Caffeine, far from economizing the reserve forces, cannot enable the exhausted subject to resume

his labors only by attacking those reserves whose destruction it hastens by excitation of the nervous system; through it the muscles, then the organism, quickly loses its nutritive stock, and caffeine cannot prevent it.

7. The immediate action of caffeine upon the heart and vessels appears to be quite different from what it is generally supposed to be. We are at present studying the whole xanthic series. We know from the investigations of Gauthier that this series comprises paraxanthine, theobromine and caffeine, the latter being merely methyltheobromine or trimethylxanthine. It is important to compare caffeine with theobromine before judging their relative cardiac and diuretic action.—*L' Union Méd.*

CURETTING OF THE UTERUS.—DR. SABAIL, in *Jour. de Méd.* Curetting and écuvillonage combined constitute an inoffensive operative procedure if strict antiseptic precautions are observed before, during, and after the operation. The author's experience of seventy cases has been unattended with accidents due to the surgical measures. The operation may be performed by any general practitioner of moderate skill. Recent circumuterine inflammation contraindicates its performance. In sixty of the cases the morbid condition was a result of labor or abortion, in four there was gonorrhœa, and in six interstitial fibroma or cancer. Of the gonorrhœal cases, two were complicated by oöphoro-salpingitis. As a means of diagnosis, curetting has been shown to be of great value. In fifty-five cases the operation resulted in a cure, and was followed by pregnancy in six in which sterility had previously existed. Perimetritis followed two of the operations. In two of the cancer cases the patients have remained in fair health for two or three years, the curetting being performed at suitable intervals. In the case of interstitial fibroma hæmorrhage recurred within a short time after the curetting. —*Arch. Gyn., Obstet. and Pæd.*

INOCULATION OF LUPUS.—At the weekly clinical conference of the physicians of the Hôpital St. Louis, M. A. TROUSSEAU presented (*Annales de Dermatologie et de Syphilographie*, September, 1889) two rabbits, into the eyes of which he had successfully inoculated some particles of lupus coming from the conjunctiva of a young woman. Upon the one rabbit an aseptic puncture was made at the margin of the cornea with a triangular knife, and through this opening a small particle of lupus tissue was introduced into the anterior chamber, just at the centre of the pupil, by means of a slender silver spatula; hernia of the iris being avoided by the instillation of eserine. There was no inflammatory reaction, the nodule gradually diminished in size, and eight days after its introduction was totally absorbed. During the ten days following nothing was noticeable. On the twelfth day following its complete absorption there could be seen a peculiar swelling, apparently a folding of the iris. Upon its surface there appeared some small white points which increased both in number and size, and assumed the aspect of true nodules. At the time of presentation of the animal the anterior chamber was filled with these yellowish deposits, some minute, others as large as peas.

In the other rabbit the inoculation was made into the corneal laminæ, and after eight or ten days was completely absorbed without any reactionary irritation. Fifteen days later a grayish point appeared in the cornea which increased in size, forming a yellowish tumor, elevating the anterior laminæ of the cornea. Bacilli were found. —*Amer. Jour. Med. Sciences.*

THE ETIOLOGY OF PARAMETRITIS. — BUMM (*Archiv für Gynäkologie*, Bd. xxxv, Heft 3) has made some important observations with the view of determining the true cause of so-called cellulitis. When pus is present it is much easier to decide this question than in the case of a simple serous exudation.

Cellulitis is usually divided into the infectious and the traumatic varieties, but the writer punctured a supposed traumatic exudation in five cases, two of which he found to be of gonorrhœal origin, while the fluid from the other three contained streptococci. Parametritis was induced artificially in rabbits, and in every instance streptococci were found in the exudation, even when there was no pus; hence the legitimate inference that *there is no purely traumatic cellulitis.* Whenever streptococci are present *there must be infection from without*; they are never found in the healthy genital secretions. Auto-infection is extremely improbable.

[The extreme importance of this unassuming paper is not at first appreciated. If the writer's deductions are correct, he has at length thrown some light upon a subject in which there has been more theorizing than on any other in the whole range of medicine—the nature and origin of pelvic cellulitis. As the result of his studies he reaches the same conclusion as many thoughtful gynecologists, that old indurations in the broad ligaments are in themselves comparatively harmless, and that the danger of exciting fresh inflammation in them by operating on the cervix uteri has been much exaggerated. As Bumm shows, where inflammation arises in the pelvic cellular tissue it is directly attributable, not to the operation, but to the operator—to *infection*, not to *traumatism.* Positive scientific facts like this accomplish more for the progress of gynecology than do the most plausible theories.—ED.] —Henry C. Coe, in *Amer. Jour. Med. Sciences.*

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FOR THE GOOD NAME OF MEDICINE.

In some remarks before a State Medical Society recently, a very well known literary man spoke in any thing but flattering terms of the scientific position of medicine. This sentiment is echoed in the public press and in drawing-room conversation. Medicine certainly is at the bar of public opinion. A crowd of ragged, emaciated and ghostly claimants demand the division of the estate, and they are each and all supported by a blatant and venal press and a lobby of ignorance, superstition and sentiment. The dignity and honor of medicine in our country is greatly abridged.

The fact that medicine broke loose from the alchemy and sorcery of the middle ages sufficiently explains the tendency of immature and unbalanced minds to revert to these ancestral types. History and poetry surround such examples of arrested mental development with the glamor of sentiment or the sophistry of antiquity, and the delusions of an emancipated sex furnish the necessary pabulum for daily subsistance.

The age of religious discussion and dissention has left its traces in the topography of our profession and especially in the minds of the common people. But at the beginning of the eighteenth century the impulse of great scientific awakening found its strongest ally in medicine. From its earliest beginnings physicians were almost universally devoted to the study of one or another of the sciences. In every department the most valuable contributions both in quantity and quality have been and are made by doctors of medicine. They are the result of labors carried on usually in the short intervals of leisure in professional duties. It is in the highest degree irrational to presume that the contributions which such men made at the same time to medicine were unscientific and empyrical. The methods which they used in their recreative studies were not only applicable to, but they were fully utilized in the study of medicine, as any one familiar with the subject will admit. The accusation that medicine is unscientific, narrow and bigoted, is denied by the most cursory review of our literature. That literature was, until the last thirty years, the principal storehouse of each of the natural sciences. The literature of almost every one of our various *ologies* from physics to psychology runs back for its wellspring to the archives of medicine, and each one of them finds its patrons and abettors to-day in the ranks of our profession. Medicine is a department of science which embraces and combines under one administration a large part of the provinces of biology, chemistry and sociology.

No other profession possesses such a literature as medicine. The literature of law is not small, but the bulk of it is prepared by paid officials, and is essential to the action of every superior court. The literature of theology is also the natural crystalization of the routine work of the clergy. But medicine has no rewards for its writers, and the original researches and experiments upon which the mass of it is based is not essential to the prosecution of professional work.

That medicine is not, from the nature of the case, a pure science, stands without saying. Its approximations correspond well with the complexity of its data, and especially with the complexity of the relations of that data. In medicine these relations reach their highest degree of complexity. Medicine is the focus of scientific thought and energy. Nor is medicine in our own land less representative and less purely scientific than elsewhere in the world. Although our age and our freedom from precedent has encouraged many absurd departures, in no other department of science, art or literature are Americans more respected and honored the world over. Among no other thinkers, actors and writers have we more illustrious citizens.

To assert that medicine is *not to-day and in* these United States the most scientific of the professions, is to voice a depth of ignorance of what science and medicine are, which is incompatible with an unprejudiced and enquiring mind.

"ORIGINAL" WORK AND THE AMERICAN MEDICAL ASSOCIATION.

The wonderful strides made by the medical profession of this country in the last few years, are only equaled by the industrial and commercial progress everywhere manifest. In the early days, when the profession was engaged in battling with epidemic diseases, riding many miles to see a few scattered patients in sparsely settled neighborhoods, it was the so-called practical man that was needed—the man who wielded calomel and quinine rather than the test-tube and microscope. Now all this is changed. With increasing wealth and a denser population have come opportunities for other work. All over our land science schools and laboratories are springing up, filled with earnest workers, each striving to add his contribution, meagre though it be, to the sum of human knowledge.

It is to this class of patient workers that modern medicine owes so much, and for the encouragement of which every effort should be made. To a certain extent this is accomplished by endowments of educational institutions and laboratories, in other cases by offering prizes, but this latter plan has not been eminently successful. These efforts point to the fact that the value of this kind of work is recognized, and also that for the worker there is but an inadequate return for the time and money expended.

As at present organized, the Section work of the Association has but little room for the experimental pathologist or therapeutist. The work is largely confined to the consideration of practical matters, those which belong directly to the practice of medicine. To illustrate: one might present to the Section on Practice a valuable and useful paper upon the chemical examination of the blood, which would be well received and ably discussed, and yet the paper might not contain a single original idea. That same individual might have made some valuable observations upon the blood corpuscles of the lower animals or upon the chemistry of blood; these facts while standing alone are valueless, and for the clinician are so much useless scientific lumber.

But it is this kind of work that is rapidly raising the practice of medicine to the realm of an exact science, for every once in a while the great generalizer comes along who weaves these scattered fragments into a grand whole, deduces the law, and science has again advanced. The Association should recognize its lofty mission and grow as the profession grows, and now seems a fitting time for the special recognition of the experimental worker, either by the creation of a special Section, or by such other means as may seem desirable. THE JOURNAL is able to give wide publicity to this kind of work, more than it now receives, for much of it is practically buried in reports of laboratories and other occasional publications.

THE CREMATION OF THE INSANE.

Most of our readers, it is to be hoped, are acquainted with CHARLES LAMB'S "Dissertation on Roast Pig," and will remember the account he gives of the origin of that savory dish in the accidental burning of a Chinaman's dwelling, in which, as in later times was the custom in the Emerald Isle, quadrupeds and bipeds shared together the comforts of a home. In consequence of this accidental discovery, conflagrations became surprisingly frequent, and rates of insurance in the Flowery Kingdom rose to an alarming figure, until in the lapse of ages, it occurred to some genius that the same end could be attained by cheaper means, and the differentiation of the dwelling-house and the culinary fire was accomplished. It may, perhaps, be worth while to consider whether the time is not ripe for a similar division in the arrangements for the disposal of a class of the population which makes, every year, heavier demands on the attention alike of the philanthropist, and the tax-payer. Among the various plans which have been tried, none of which, apparently, has given universal satisfaction, that of cremation, if we may judge by the extent to which it is practiced, is growing in favor, and in this direction, as might be expected, the New World leads the van. A German physician, DR. LAEHR, has recently written a book on the history of psychiatry, in which among other things, he furnishes statistics in regard to conflagrations in asylums for the insane. From the information collected by *him* it appears that, at the time at which he wrote, there had been, in the United States, eight such fires attended with loss of life. In six of them, 114 lives were lost, and in two the numbers were not stated. In Canada, also, there had been a fire, with loss of twenty-six lives. In the Old World, on the other hand, he only found accounts of the loss of seventy-odd lives, in eleven fires. In England, for instance, there had been several lives—number not stated—lost in one fire; in France, ten lives in three fires, and in Germany four lives in two fires. Recent events, fresh in the minds of all our readers, have greatly increased this disparity, and we may now fearlessly boast that, during the present century, more than twice as many insane persons have been burned alive in the United States and Canada as in the remainder of the civilized world. It is to be hoped that the American alienists who attend the coming International Medical Congress will not fail to call attention to this fact, which is, in itself, a sufficient refutation of the charge sometimes made that they are behind the times.

Gratifying, as have been the results attained, it must, nevertheless, be admitted that there is room for improvement in the means employed. It would seem that sufficient experience has now been accumulated to demonstrate that the same building will not satisfactorily answer at once the purpose of a crematory and a hospital. For the former purpose the institutions at Longue Point and Chenango seem, it is true, to have been fairly efficient, but they can hardly be recommended on the score of cheapness, while such usefulness as they had for hospital purposes is now at an end. We therefore venture to suggest that, in the future, separate structures, or at least separate departments be provided for the two purposes, so that there need be no waste of fuel in cremation, and that such insane persons, if any, as shall be thought adapted to hospital treatment need not be, from time to time, deprived of shelter. The statistics above given seem to indicate a possibility of learning something, in the latter direction, from the effete despotisms of the Old World.

SPECIALISM IN NURSING.

The Lancet considers the point of the desirability of differentiating the work of nursing into varieties more or less numerous. The subject was brought into recent notice by a discussion at the British Nurses Association, when it became evident that opinion was greatly divided on the question. *The Lancet*, however, has clear views in opposition to a multiplying of distinctions in this field of work, and quotes with favorable comments the argument of MR. WARRINGTON HAWARD, presented before that Association at a meeting held in April. The training of nurses, he argued, should in all instances begin upon a basis of a sound general instruction, regardless of what, or any, superadded instruction in special departments. Excessive specialism, if it has injured medicine at all, has wrought its evils in practice rather than in training. "All 'round" is still the fundamental maxim of professional instruction, and "all 'round" should remain the precept in nursing. To induct those who are preparing to nurse the sick into a specialty, without first instilling correct general principles, is comparable to an ornate structure on a flimsy foundation. There is no need of denying that nursing requisites exist, especially in the case of the after-care of the major operations, for which the profession must employ persons of special aptitudes, but in their cases, not less than in those whose responsibilities are not so weighty, the necessary basis of thorough preliminary training should be held to be quite as important as that after-development which is fostered and patently matured in the chosen few who manifest the capacity and liking for work in special fields. Any specialism in nursing that comes about in this thorough and painstaking way is both welcome and highly prized.

EDITORIAL NOTES.

A NEW SECTION.—In connection with the report of the Committee on Dietetics a resolution presented at the General Session of the Association on Thursday, May 22, was adopted, by which a new Section was created and designated "The Section on Dietetics and Physiology."

THE PLATFORM CLEARED.—By resolution it was decided that in future the business of the General Sessions should be conducted solely upon the floor of the house. We incline to believe that this is a wise provision. In the excitement which is often incident to a running debate, position may have materially to do with the power of a speaker to influence his hearers. Under such circumstances it is but just that all should be required to meet upon a common plane. Henceforth the Presiding officer, the Secretary, and possibly the Chairman of the Committee of Arrangements are to be heard from the platform, but all others are to be limited to the floor.

A MERITED VOTE OF THANKS.—The amount of correspondence which this year has fallen to the lot of our worthy secretary, Dr. Wm. B. Atkinson, in connection with the meeting at Nashville and the Congress at Berlin, has been simply enormous. He is to be congratulated for the successful manner in which this voluntary and onerous work has been accomplished, and the least that the Association in justice, could do, was to honor him with a unanimous vote of thanks.

HYPNOTISM IN BELGIUM MADE A MISDEMEANOR.—The Academy of Medicine of Brussels having memorialized the Belgian Government in condemnation of all public hypnotic exhibitions, a regulation has been adopted forbidding them. The only uses of hypnotism hereafter legally to be practiced will be medical and therapeutical. The practice of hypnosis on girls under the age of 18 years is made punishable by fine and imprisonment.

THE CORRECTION OF AN EVIL.—It coming to the knowledge of the Association that medical men were in the habit of attending its sessions and participating in its proceedings without having registered, and without paying their annual dues, a resolution was adopted directing that cards be prepared and issued at the place of registration, and that members be admitted only by card to the meetings of the Association, during the first two days of its annual meetings.

TIMELY AND GENEROUS BEQUESTS.—If capital shall serve the cause of the poor and the needy, as in the following instances, surely labor will have less cause for conflict or for complaint as the purposes of capitalists are better known.

The late George S. Pepper, of Philadelphia, by his munificent bestowments has rendered nearly every charitable institution in that city a debtor to his memory. Over half a million of dollars are left to the various hospitals for the relief of suffering and for the care of the sick poor. The name of George S. Pepper will long be held in grateful remembrance by his fellow citizens, and especially by those who in the hour of sorest need shall find in him their benefactor.

By the will of the late Segwald A. Quale, of Eau Claire, one million dollars is to be devoted to the founding and maintenance of a hospital for cripples and deformed persons in the city of Madison, Wis. Of such men as these it may well be said their charities ally them to immortality.

THE NASHVILLE MEETING AND THE NASHVILLE PRESS.—The annual meeting at Nashville was all the more enjoyable by reason of the active and able coöperation of the daily papers of that city. To the *Daily American* we are specially indebted for its full and remarkably correct reports of the meetings. Its final words are these:

> THE DEPARTED DOCTORS.
>
> The doctors, after a stay in our city enjoyable alike to citizens and guests, have gone away to their many homes. No gathering which ever took place in Nashville has to such an extent won the interest and high respect of our people, and whenever the members of the very learned profession desire again to turn their collective faces southward, the people of Nashville and of Tennessee will open even wider the doors of hearts and homes and give them cordial welcome.

PROGRESS OF CREMATION.—The number of cremations increases every year. In London, from 1884–1887, there was an average of only eight per year. In 1888 there were twenty-six, and in 1889 forty-six. During the present year there have been several each week. In the new Paris crematory there were only thirty-five voluntary cremations in 1889, but the number of dead-born children and cadavers from the hospitals and schools is so great that cremation goes on day and night without intermission. According to the *Journal d'Hygiène* 3,000 bodies were cremated in 1889. In Rome there were 119 cremations in 1886, 155 in 1887, and 202 in 1888.

NEW SYSTEM OF SEWERAGE IN NAPLES.—The *Revista Internazionale de Hygiene* gives an account of the new system of sewerage in Naples. The total length of the sewers is 76,000 metres, of which about half, or 35,700 metres, is quite new. The fall of the principal sewers does not exceed 5 in 1,000.

DR. CHAS. CHASSAIGNAC has been elected to the presidency of the New Orleans Medical Society, to succeed the late Dr. John P. Davidson.

TOPICS OF THE WEEK.

AMERICAN *vs.* FOREIGN PHYSICIANS.

I believe in some forms of protection, and, in my opinion, the American physician should be protected. Holders of foreign diplomas who come to America, should not be allowed any greater privileges than are accorded abroad to American physicians. The University of Berlin has recently refused to recognize any diplomas from United States medical colleges, and it has been announced that an American physician desiring to practice medicine in Prussia, must first take a regular course in a German College. "The French Minister of Public Instruction has declared officially that hereafter foreign doctors shall submit their diplomas to the judgment of the French faculties, which would then decide whether they were on a parity with those granted to French practitioners. Furthermore, foreign medical men should be required to undergo the final examinations to which French candidates for the qualification to practice have to submit themselves." One-sixth of the physicians in California are from foreign lands, and graduates of foreign schools, and I would like to see the next Legislature provide for an Examining Board, no member of which should belong to the faculty of a California college, whose duty it would be to require each person who applied for a license, with a foreign diploma as his credential, to pass an examination equivalent to the final examinations of our California medical colleges.—Dr. Walter Lindley, *Occidental Medical Times.*

IODOFORM EMULSION IN COLD ABSCESSES.

A recent number of the *Wiener klinische Wochenschrift* contains a paper by Professor Billroth on the treatment of cold abscesses and tuberculous caries. He says Mosetig v. Moorhof was the first to recommend iodoform as a local antiseptic and an anti-tuberculous remedy. Since 1881 Billroth himself has made an extensive use of the iodoform emulsion. The parenchymatous injections of such solutions, and the injections of them into abscesses, caused such severe and persistent pain that this method was soon abandoned in his clinic. The formula of the iodoform emulsion, as used by v. Moorhof, was first: ℞. Iodoform *pur. 10.0; ol. ricini.* ol. amygdalæ āā 15.0. The first formula used by Mikulicz was: ℞. Iodof. pur. 10.0; glycer. 80.0; oil of olives 40.0. Later on Moorhof recommended the following formula: ℞. Iodof. *pur 50.0* tere c. glycer. *40.0*; distilled water 10.0; gummi traganth., 0.30. The formula used by Mikulicz in Billroth's clinic differed from v. Moorhof's in that the latter contained considerably more iodoform than the former. As the addition of oil seemed to Billroth to be useless, he had *only* 10 grams of pulverized iodoform mixed with 100 grams of glycerine; the mixture had to be violently shaken before it was used. This emulsion could not, *of course,* be employed for parenchymatous injections. In 1881 Mikulicz reported two cases in the *Berliner klin. Wochenschrift*, in which he had injected the emulsion into cold abscesses of the thigh after opening them. There was considerable diminution of the abscess cavity after some weeks. Professor Billroth himself tried this method, and in 1884 the results were published by Fränkel. Of 20 cases, 18 were definitely cured, but in the other 2 the treatment was not successful. Professor Bruns, of Tübingen, also obtained very satisfactory results by this method. The anti-tuberculous influence of iodoform was clearly proved by these experiments, and if the effect of the powder when applied to carious foci was not so satisfactory, that was no doubt due to its not being long enough in contact with all parts of the walls of the abscess cavities and the bones. The emulsion, therefore, was clearly preferable in such cases. The results of this plan have exceeded Professor Billroth's most sanguine expectations, except in some abscesses taking origin from the vertebral column, in which the treatment seemed to be too dangerous to be tried. This method was practiced on almost all the bones, joints, and soft parts of the body, and in nearly all these cases results were obtained far surpassing all previous experience. The *technique* of the treatment is as follows: When operating upon the extremities Esmarch's bandage must be applied; when the cavity has been emptied it should be taken off. The cavity is then stuffed with iodoform gauze, and after all bleeding has ceased—it may last from half an hour to three-quarters of an hour—the emulsion is poured in and the wound stitched up. In this, as in all other operations, Professor Billroth insists on the most scrupulous antiseptic precautions; the skin must be washed with alcohol, ether, and sublimate, and the silk sutures must be completely sterilized. An incision is made through the skin and the soft parts over the abscess along the long diameter of the swelling. Incisions from the tuber ischii to the popliteal space, or from the latter to the heel, are not uncommon in these operations. A large pledget of iodoform gauze is then pushed into the abscess, and its inner surface firmly rubbed. The cavity is then washed with a 1 in 3,000 solution of sublimate. If there is a cavity in the bone this is energetically cleansed. The wound is next stitched up, except a large opening through which the emulsion is poured into the cavity of the abscess and the cavity of the bone respectively. Finally, the rest of the wound is closed with sutures, and the dressing applied. In most cases fever, lasting from three to four days, supervenes, and occasionally also there is rather high evening temperatures. The following types of cases are met with: 1. No pain, only some passing twinges following the operation; fever moderate. Under these conditions the dressing can be allowed to remain from two to three weeks. Recovery takes place by first intention. The sutures are then removed, and the dressing allowed to remain for about two weeks longer. 2. Sharp pain and severe fever. The dressing is taken off; bloody serum mixed with iodoform emulsion escapes from some parts between the sutures. The serum is pressed out; the sutures are allowed to remain, and slender drainage tubes are introduced into the openings. A new dressing is applied, which is removed after from three to seven days. When the discharge stops, the drainage tubes are removed. Healing by first intention takes place in the deep parts; the granulating wound is dressed with an ointment; the small fistulæ are touched with nitrate of silver, and thus are soon closed. This is the most common course of events. 3. Pain increases on the second and third days after operation. Pure blood or bloody serum escapes from the wound; drainage and fresh dressing. Recovery without suppuration may occur even in these cases. 4. Stitches burst owing to great tension, and decomposition owing to streptococcus albus around the sutures. Treatment as above. 5. Continual fever and pain. Pus escapes from between the sutures. In this case the operation has not been really successful; cocci of suppuration have remained behind. The stitches are removed, drainage tubes inserted, and pure glycerine or iodoform emulsion poured in every second day. This, in most cases, causes pain and fever. Recovery takes place in from five to six weeks. 6. If after this time no sure signs of definite recovery are present, the operation must be repeated. The worst cases of very large abscesses and numerous fistulæ gave in Billroth's hands the best results, not merely proportionately but absolutely.—Vienna Cor. *British Medical Journal.*

DISPOSAL OF SEWAGE AND GARBAGE.

The subject of the pollution of sewage is one of growing importance as the population of our cities and towns increases, for these streams must more and more be the dependence of the people for household uses. The greatest harm resulting from sewage in streams is the pollution of the water for domestic purposes. But there are other evils, such as the destruction of fish, and the gradual obstruction of their channels. The principal rivers of the State flow through so many counties, that it is impracticable to find a solution of the problem in the action of local authorities, either separate or concerted, and in the near future our State Legislature must devise a general plan to stop the mischief. The impurities which now go to our streams are mainly the contents of the sewers, and partially the solid garbage hauled from premises. In cities along the coast, sewage flows into the sea with little regard to the ebb or flow of tide, and much of it is cast back upon the shore. It is therefore desirable to discharge during the ebb only. Many European towns are disposing of their sewage by irrigation with advantage, and in some cases even with a slight profit. For agricultural purposes, one acre of land is considered sufficient to dispose of the sewage of 100 persons. If the land be used for purification only, much less acreage will suffice. The charge of insalubrity against sewage farming is not sustained. Analysis of well water on these lands shows no organic impurity, demonstrating the thorough filtration of the water, with combined oxidation by the ground air, and appropriation of the matters in solution by the growing vegetation. Observation has not shown typhoid fever or diarrhœal complaints to be more prevalent on such lands. Bad management and neglect of under-drainage are responsible for most of the complaints made against this system. The disposal of garbage by cremation or by dessication has been found practicable, and comparatively inexpensive. Many of these crematories are in successful operation; the cost of the Mann furnace, at Montreal, is 25 cents a ton of ordinary refuse, and 75 cents for night soil. The Engle destructor in use at Des Moines and Minneapolis disposes of refuse largely composed of carcasses, for less than 20 cents a ton. The Shaw crematory in London, Eng., dries the refuse, which is then fed into the furnaces, so that when once started it becomes self-operating. The residue, amounting to about one-sixth of the original, is ground up for mortar, and a preliminary sorting of the refuse permits the saving of many substances, as iron, glass, rags, etc. Sufficient heat is developed to run a small steam engine used in connection with the furnace. —*Occidental Med. Times.*

ICHTHYOL IN GYNECOLOGY.

Dr. Freund, first assistant in the gynecological clinic at Strassburg, has found ichthyol of considerable use in parametritis, perimetritis with effusion, cicatrization of the vagina and os, chronic metritis, inflammations of the ovaries and Fallopian tubes, ulceration of the os and pruritus vulvæ. He uses the drug internally in the form of pills, and externally as a 5 per cent. solution in glycerine applied on cotton wool; also with lanolin as an application to the abdominal walls, and made up into suppositories with cacao butter. In many cases he has obtained excellent results, notably in one where there was an extensive effusion into the pouch of Douglas, which was entirely absorbed in sixteen days, ichthyol being used both internally and externally. In no case was any untoward result noted. The disagreeable smell of the ichthyol was covered by the addition of cumarin. —*The Lancet.*

BISULPHIDE OF CARBON IN DYSENTERY.

Dr. Jakobleff reports in the proceedings of a Russian provincial medical society that he has found great benefit in dysentery from the employment of bisulphide of carbon—of course largely diluted. The quantity given per diem was from three to five grains in half a tumbler of water or milk, with a little peppermint. First of all, however, one or two grains of calomel were administered hourly until calomel stools had been induced, and during this time enemata containing a grain and a half of sulphide of carbon in an ounce and a half of water were administered twice daily. Great improvement was produced, and frequently this was as rapid as it was marked, so that there could not be any doubt that it had been brought about by the bisulphide of carbon treatment.—*The Lancet.*

IODOFORM EMULSION IN COLD ABSCESS.

Dr. Jasinski, of Cracow, has treated eighty-six cases of cold abscess by means of injections through a trocar of iodoform emulsion with encouraging results. A certain number were cured by a single injection, others after two or three injections. In eleven cases after the injection the abscess broke, a large quantity of pus mixed with iodoform being discharged. These were all cured without any further surgical interference. In nineteen cases an incision had to be made, the cavity was then washed out with carbolized water, iodoform emulsion injected, and the wound sewn up after a drainage tube had been inserted. In some of these cases the injection had to be repeated several times. Though 180 grams of a 10 per cent. emulsion were injected at once no toxic symptoms were ever observed.—*The Lancet.*

PRACTICAL NOTES.

ALTERATIVE PILL.

In adults you will often meet with the following train of symptoms: Vomiting, coated tongue, foul breath, accompanied by more or less headache; in short, I may say an attack of biliousness or a bilious attack—but it differs in some respects from the cases in which calomel is indicated. Something is wanted to allay the pain, and for this purpose opium in small doses will be found useful. Again, we desire to add to the effect of the mercurial preparation by incorporating into our prescription some drug which will favor the activity of the liver and increase secretion. Ipecac answers our purpose admirably, and, fortunately, both of these drugs have the effect of obtunding the sensibility of the sensory nerves. Recalling the formula, it will be seen that it embraces practically the ingredients contained in an ordinary Dover's powder, except that it has in addition ½ gr. of blue mass.

℞. Pulv. opii, }
Pulv. ipecac, } . . . . gr. ⅛.
Massæ hydrargyri . . . . gr. ss.
M. et ft. tab. trit. No. 1.

If deemed best, calomel may be substituted for the blue mass. Taking it all in all, the value of this pill for the class of cases indicated can scarcely be overestimated. There is not sufficient opium to make the pill dangerous, and the same is true of the blue mass; but if they are taken too freely, or when taken for too long a time, we shall have the irritating effect of the ipecac, and vomiting will follow. It is surprising the number of cases in which this combination will be found available.—*N. Y. Med. Jour.*

BROMIDE OF ETHYL ANÆSTHESIA.

For nearly two years Dr. E. Haffter employed bromide of ethyl as an anæsthetic, and during that time he has administered it to more than 200 patients (*Correspondenz-Blatt für Schweizer Aerzte*, March, 1890). He believes it to be a safe and valuable anæsthetic for minor surgical operations. Merck's preparation is the best according to the author, and its purity can be determined by the fact that if poured upon the hand it should evaporate rapidly and without leaving any residue; that if shaken with water and filtered, the filtrate should be neutral, and give no reaction with nitrate of silver; and that the addition of concentrated sulphuric acid should not cause a brown color to appear.

The author concludes his paper with the following summary:

1. Bromide of ethyl acts with great rapidity, and usually without a period of excitement; it is perfectly safe when used in small amounts, and there are seldom any unpleasant after-effects.
2. The best method of administration is to pour the entire quantity to be used (1 to 5 drachms) on an impermeable mask, which is placed close to the patient's mouth and nose.
3. In most cases the operation can be begun in from fifteen to twenty seconds after the first inhalation, though the duration of anæsthesia will be very short, and only suitable for minor operations, opening abscesses, etc.
4. There are a few patients, chiefly alcoholics, who cannot be anæsthetized by the agent.
5. There are no contra-indications to the use of bromide of ethyl employed in small amounts and for short operations.

RAPID CURE OF ERYSIPELAS BY ERGOTINE.

Dr. Geo. C. Kingsbury (*Brit. Med. Jour.*) says: For erysipelas, like most other painful diseases, hosts of remedies have been suggested, and ever since Hueter discovered cocci in this particular ailment all sorts of germicide applications have been tried, with and without success. The most recent favorites are carbolic acid, ichthyol, and creolin. Without wishing in the slightest to underestimate the value of these agents, I would like to call attention to what has been my invariable treatment for at least five years. In every case I have used ergotine applied with a camel's hair brush to and around the affected area, and have found it a painless, rapid, and almost certain cure; in fact, I cannot recall a single case in which it has disappointed me. It is best used in the form of a 50 per cent. solution in distilled water, painted on frequently. Generally one or two applications suffice to diminish all feeling of tension, and it is rarely that the pain is not quite conquered in twenty-four hours, leaving the patient comparatively well. In many cases I have relied solely on the ergotine, not prescribing any internal medicine.

In writing this note I have no desire to be thought original, for I saw the treatment recommended in some medical paper of about the year 1884 or 1885, but I cannot lay my hands on it now, and fear the treatment has not had a fair trial, as I never hear of its being adopted. Neither do I pretend to explain the action of the ergotine, but the effective way in which it cuts off the excessive blood supply to an over vascular area naturally suggests its trial in other passive congestions, and in these also I have found it very useful.

In the *Year-Book of Treatment* for 1890, p. 255, I find it stated that Dr. F. Nesterovsky describes two cases in which he has used a mixture of "extractum secalis cornuti" and glycerine with success, the temperature becoming normal in six days. This encourages me to ask for a fresh trial of ergotine, which I have found in not fewer than thirty cases to practically cure in one day.

DOMESTIC CORRESPONDENCE.

The Importation of Foreign Natural Mineral Waters.

To the Editor:—At a meeting of the New York County Medical Association held May 19, 1890, the following resolution was adopted:

P. BRYNBERG PORTER, M.D.,
Recording Secretary.

Resolved, That the New York County Medical Association, a representative body composed of five hundred practicing physicians in the City of New York, believing that it is for the best interests of the people of the United States that all foreign natural mineral waters should be imported free of duty, respectfully urges upon the National Senate and House of Representatives that the provisions now in force relating to foreign natural mineral waters, and to the bottles in which they are imported, should be re-enacted in any tariff which is sanctioned by them.

What Killed the Woman?

To the Editor:—On May 30, I was summoned to the bedside of a woman reported to be in labor, arriving at 8 o'clock in the morning. She was 31 years old, and had had two children, the last one six years ago. Her former labors were described as energetic and soon over with. She was well developed, active and accustomed to labor. At 5 o'clock in the morning she was getting breakfast, and being suddenly seized with pain, went to bed. When I arrived, the lady attending her told me the patient was "wasting." I found her with a quick, feeble pulse, pale, agitated, body cool, and seemingly in the condition of a person suffering from hæmorrhage. On examination, the os was found closed tight, and it was with much difficulty that I introduced the tip of the index finger. The patient said her time was not up, and suspecting placenta prævia, I forced the finger through the cervical canal, and swept the inner circle, but found no placenta within reach. The os, instead of being thin, as usual near term—for she expected confinement within a month—was nearly an inch thick, freely movable, and easily drawn forward. While examining, I waited for uterine contractions, but though the patient complained of constant suffering located low across the bowels in front, and also at the summit of the uterus, yet the os indicated no contractions. A closer examination of the patient's clothing revealed the fact that what was supposed to be hæmorrhage was simply a discharge of the amniotic fluid, tinged with a reddish color sufficient to stain the bed and linen, but this had not been unusually profuse. Not a clot was to be found, and each examination revealed only a slight sanguineous discharge. Digital examination further revealed the head well down against the os pubis, with ample room in the sacral region, but there was not sufficient dilatation to make out the exact presentation. Nausea was present most of the time, but did not cause much vomiting. There was some thirst, but not of an urgent nature, certainly not as much as one would expect in a case of profuse hæmorrhage. The theory of hæmorrhage was therefore dismissed, and the case seemed one where a rupture of the membranes had occurred prematurely, followed by shock to the nervous system. The only thing to be done, apparently, was to await the natural development of uterine action.

At first I gave whisky freely to counteract depression, after which the pulse improved, the body grew warm and the general condition became better. In a few hours I gave ergot tentatively, but with no results. Constant misery continued, and nausea, feeble, quick pulse, restlessness, ringing of the ears, some dimness of vision, but no dilatation of the os, and no uterine action. Another symptom complained of was hardness of the prominent portion of the abdomen, but I attributed this simply to the escape of the waters. About noon—four hours after my arrival—I gave ¼ gr. of morphine. In an hour or two she became more quiet, slept some, and by 4 o'clock seemed much easier. Having complained of previous constipation, I gave magnesia sulph. and directed that it be repeated every hour until it acted. The patient being more comfortable, I then took my leave, directing them to summon me at once when labor became apparent. This was 4 o'clock P.M. She remained easy until 10. After midnight her condition became more urgent and I was again summoned. Arriving at 3, I found nearly the same condition as in the morning before—thready pulse, cold extremities, and great prostration, but still no uterine action and no dilatation. It was evident that something must be done, and that quickly. The nearest accessible doctor was eight miles away. However, a messenger was dispatched, and while I was deliberating whether I could possibly force my hand through an os which barely admitted the tips of two fingers, turn and deliver, the patient expressed a wish to get up. I advised her urgently to lie still, but being a woman of will, she insisted on getting out, and did so with the help of her husband, when she was immediately seized with syncope. Hastily they replaced her in bed, but consciousness did not return, and in five minutes she was dead.

Of course I was shocked, the bystanders were shocked, and the family were thrown into transports of grief. In a practice of nearly twenty years I had never witnessed anything approaching this before. Without convulsions, without visible hæmorrhage, without a single expulsive pain, without any special cause for alarm during a stay of eight hours throughout the day, without the labor having actually begun, as it would seem, there being no alternations of pain, no distress in the back so usual in the first stage, but only a constant misery at the fundus and apex of the uterus, attended with a colored amniotic discharge and some pronounced symptoms of shock, this woman died almost before any one realized that she was in any danger. In the absence of a post-mortem the question of absorbing interest to my mind is—What killed the woman?

JAMES L. TAYLOR, M.D.,

Wheelersburg, O., June 14, 1890.

AMERICAN MEDICAL ASSOCIATION.

Forty-first Annual Meeting, held at Nashville, Tenn., May 20-24, 1890.

Section of Obstetrics and Gynecology.

FIRST DAY.

The first session was called to order in the rooms of the Y. M. C. A. at 3 P.M. by Dr. W. H. Wathen, of Louisville, Ky., who introduced the Chairman, Dr. William Warren Potter, of Buffalo, N. Y., who delivered the Annual Address (see page 785).

Dr. William H. Wathen then read a valuable paper upon the subject of *Intraligamentary Cysts*, which was duly received and referred for publication.

The next paper was submitted by Dr. H. O. Marcy, of Boston, on *The Surgical Treatment of Non-pedunculated Abdominal Tumors*. This and the preceding paper were jointly discussed by Drs. Ranney, Moss and Reed, and by the authors in conclusion.

The fourth paper presented was prepared by Dr. A. Vanderveer, of Albany, N. Y., and read by title, as follows: *She Supposed it Was Her Change of Life.*

Dr. Franklin H. Martin presented as the next paper, *A Plea for Early Vaginal Hysterectomy for Cancer of the Uterus.*

Dr. Charles A. L. Reed, of Cincinnati, followed with a paper entitled, *Primary and Ultimate Results of Vaginal Hysterectomy for Cancer.*

These papers were jointly discussed by Drs. Dunning, Groff, Reamy, Wathen, McIntyre, Moss and the authors.

The Section then adjourned.

SECOND DAY.

The second session of the Section was called to order on Wednesday, May 21, at 2 P. M., Chairman Potter presiding.

Dr. Ely Van der Warker, of Syracuse, N. Y., read a paper entitled, *Stricture of the Urethra in Women.*

The report of the Nominating Committee was next presented by Dr. Marcy as the result of election. Dr. Charles A. Reed, of Cincinnati, was made Chairman, and Dr. H. A. Kelly was elected Secretary for the ensuing year.

Dr. Van der Warker's paper was then discussed by Dr. Currier, of N. Y.; Dr. Englemann, of St. Louis; Reed, of Ohio, and the author.

Dr. Andrew F. Currier, of N. Y., then read a paper on *A New Operation for the Relief of Prolapse of Anterior Vaginal Wall.* Discussion followed by Drs. Van der Warker, Reamy, Johnston, of Danville, Ky.; Hoffman, of Philadelphia; Engleman, Kerr, Dunlap, and the author.

Dr. E. W. Mitchell, of Cincinnati, read *A Report of Two Cases of Hyperemesis Gravidarium.*

Chairman Potter read a telegram announcing the death of Dr. Wm. H. Byford, of Chicago.

On motion a committee, consisting of Dr. F. H. Martin, Dr. Reamy and Dr. J G. Meacham, was appointed to draft suitable resolutions in connection with the death of Dr. Byford.

Dr. Mitchell's paper was then discussed by Dr. Johnson, of S. C., and by Dr. Rosewater, of Omaha.

Dr. Aug. P. Clark submitted a paper upon *The Treatment of Placenta Prævia*, which was read by title.

Dr. L. H. Dunning, of Indianapolis, Ind., read a paper on *Uterus Bilocularis*, which was discussed by Dr. Currier and the author.

Dr. T. B. Greenley, of West Point, Ky., presented a paper upon *Asepsis vs. Antiseptics as a Prevention of Puerperal Septicæmia*, which was discussed by Drs. Currier, Hoffman, Shoemaker, add the author.

The next paper was submitted by Dr. John B. Meacham, of Racine, Wis., entitled, *The Great Utility of Bleeding in Puerperal Eclampsia.* The paper was discussed by Drs. Reed, Greenley, Hoffman, Kerr, Pomeroy and Davis.

THIRD DAY.

The third day's session was duly called to order by the Chairman, Dr. Potter.

Dr. Marie B. Werner, of Philadelphia, read a paper on *Fistulous Escape of Ligatures After Abdominal Operations.* This led to a full discussion, in which Dr. Wathen, of Louisville; Dr. Reamy, of Cincinnati; Currier, of N. Y.; Sell, of Penna.; Kelley, of Baltimore; Reed, of Ohio; Meyer, of Me.; Johnston, of Danville, Ky.; Price, of Philadelphia; Van der Warker and Hoffman, took part.

Dr. M. B. Ward, of Topeka, Kan., submitted a paper on *Diseases of the Female Pelvic Organs, and When to Operate.* This paper was read by title.

Dr. Hoffman next presented *A Plea for the General Adoption of Traction Forceps.* Discussed by Drs. Price, Currier, and the author.

Dr. Joseph Price, of Philadelphia, presented *A Retrospect of Pelvic Surgery.*

Dr. Geo. E. Shoemaker, of Philadelphia, read a paper on *Drainage in Abdominal Surgery*. The two papers were discussed jointly by Drs. Hoffman, Meyer, Reed, Hypes, Barnes and the author.

A paper prepared by Dr. I. S. Stone, entitled, *Psychical Results of Gynecological Operations*, was read by title.

Dr. Deahofe, of Potsdam, O., presented a paper, read by title, on *Puerperal Albuminuria*.

A short and pertinent farewell address was then delivered by the retiring Chairman, Dr. Potter, who, at its conclusion, introduced the Chairman-elect, Dr. C. A. Reed, of Cincinnati, and after a short address the final adjournment was had.

TREASURER'S REPORT.

DR. RICHARD J. DUNGLISON, Treasurer, in account with the American Medical Association, for Fiscal Year to May 22, 1890, inclusive.

DR. 1889.		
June 26. To cash balance, as per report at Newport meeting	$2,845.65	
June 28. To amount received from delegates and members at Newport meeting	2,705.00	
1890.		
May 16. Amount of annual dues from members to date	11,705.00	
May 20. To amount received at office of publication of Journal July 1st, 1889, to end of its fiscal year	11,563.37	
		$28,819.02
CR. 1889.		
June 29. By cash paid for postage, telegrams, expressage, stamped envelopes, etc	$ 69.85	
July 8. By cash paid Ward & Barnitz, printing bills	5.00	
July 8. By cash paid rental P. O. box	3.00	
July 8. By cash paid collectors' commissions on dues	38.50	
July 12. By cash paid Dr. W. B. Atkinson, permanent Secretary, expressage, telegrams, postage, etc., to date	116.90	
July 12. By cash paid Dr. R. J. Dunglison, Treasurer, expenses of travel, postage, expressage, etc	68.21	
July 15. By cash for stamped envelopes	70.40	
July 17. By cash paid Ward & Barnitz, envelopes, postals, notices, etc. (1888-9 account)	27.08	
July 26. By cash paid Wm. F. Fell & Co., printing stubbed receipt books, blanks and envelopes	12.50	
July 26. By cash paid Dr. H. R. Storer, Chairman Com. of Arrangements at Newport meeting, rental of halls, printing	1,093.24	
Aug. 26. By cash paid Wm. F. Fell & Co., postals and stamped envelopes for Permanent Secretary	19.50	
Oct. 1. By cash paid for rental of P. O. box	3.00	
Oct. 24. By cash paid for quarto circulars for Permanent Secretary	13.25	
Oct. 31. By cash paid Wm. F. Fell & Co., printing notices and circulars	5.25	
Oct. 31. By cash paid Wm. F. Fell & Co., printing letter circulars for Permanent Secretary,	4.25	
Oct. 31. By cash paid Ward & Barnitz, postals and printing	5.25	
Oct. 31. By cash paid collectors' commissions, postals, stamped envelopes and postage	79.95	
Nov. 9. By cash paid Ward & Barnitz, postals and printing	5.00	
Nov. 21. By cash paid Ward & Barnitz, postals and printing	1.00	
Dec. 16. By collection charges Farmers' and Mechanics' National Bank	16.70	
1890.		
Jan. 2. By cash paid collectors' commissions, stamped envelopes, postals and postage	53.35	
Jan. 2. By cash paid Ward & Barnitz, printing notices	1.25	
Jan. 2. By cash paid for rental of P. O. box	3.00	
Jan. 30. By cash paid Ward & Barnitz, postals, envelopes, note sheets and printing	10.02	
Feb. 11. By cash paid Geo. S. Davis, subscription to "Index Medicus,"	10.00	
Feb. 11. By cash paid Ward & Barnitz, printing drafts	2.50	
Mar. 13. By cash paid Wm. F. Fell & Co., printing drafts and notices	4.50	
Mar. 14. By cash paid William F. Fell & Co., stamped envelopes and printing letter circulars	20.25	
April 1. By cash paid rental P. O. Box	3.00	
April 11. By cash paid Ward & Barnitz, printing slips, bills, etc	13.70	
May 14. By cash paid A. H. Coppuck, typewritten circular	1.50	
May 16. By cash paid for postage, telegrams, stamped envelopes, etc	63.81	
May 16. By cash paid Drexel & Co., collection charges on drafts	74.55	
May 16. By cash paid exchange on checks deposited at Farmers' and Mechanics' National Bank	45.15	
May 16. By cash paid Wm. F. Fell & Co., printing membership receipts	1.50	
May 22. By cash paid office of publication of the Journal to date	10,806.21	
May 22. By cash expended by office of publication of the Journal, June 15, 1889, to end of its fiscal year	11,343.70	
May 22. By cash balance	4,703.20	
		$28,819.02

FOREIGN DELEGATES.

J. B. Alford, Grand Rapids, O.; Winslow Anderson, San Francisco, Cal.; H. St. Clair Ash, Philadelphia; R. P. Andrews, Cambridge, Mass.; C. H. Alden, St. Paul, Minn.; W. H. Bell, Logansport, Ind.; R. B. Bontecou, Troy, N. Y.; H. T. Byford, Chicago, Ill.; L. D. Bulkley, New York; H. H. Beidler, Baltimore, Md.; D. R. Brower, Chicago; J. G. Berry, Chicago; E. Borck, St. Louis, Mo.; J. H. Baxter, U. S. Army; Leartus Connor, Detroit, Mich.; G. I. Cullen, Cincinnati, O.; J. J. Chisolm, Baltimore, Md.; S. A. Conklin, Canton, O.; E. W. Cushing, Boston, Mass.; A. P. Clarke, Cambridge, Mass.; I. DeZouche, Gloversville, N. Y.; W. M. Drake, Lamar, Tex.; W. H. Daly, Pittsburgh, Pa.; H. W. Dudley, Hillsboro, Tex.; R. F. Eads, Marshall, Tex.; J. Elsner, Denver, Col.; C. R. Earley, Ridgway, Pa.; E. F. Eldridge, New London, Wis.; V. A. Ellsworth, East Otto, N. Y.; W. Flynn, Marion, Ind.; S. W. Fowler, Delaware, O.; H, Fleischer, New Haven, Conn.; A. J. Fuller, Bath, Me.; T. M. Flandrau, Rome, N. Y.; C. H. Fisher, Providence, R. I.; T. A. Foster, Portland, Me.; E. Griswold, Sharon, Pa.; S. C. Gordon, Portland, Me.; N. Guhman, St. Louis, Mo.; A. L. Gihon, U. S. N.; E. C. Goodrich, Augusta, Ga.; E. Grissom, Raleigh, N. C.; G. L. Greenawalt, Ft. Wayne, Ind.; Hugh Hamilton, Harrisburg, Pa.; A. C. Holtzendorff, Plymouth, Ind.; M. L. Herr, Lancaster, Pa.; C. C. Hunt, Dixon, Ill.; Fairfax Irwin, Chelsea, Mass.; J. F. Jenkins, Tecumseh, Mich.; Reeves Jackson, Chicago; W. J. K. Kline, Greencastle, Pa.; T. C. Kennedy, Shelbyville, Ind.; A. Kaiser, Detroit, Mich.; W. F. Knox, McKeesport, Pa.; A. F. A. King, Washington, D. C.; C. B. Kibler, Corry, Pa.; G. H. Knight, Lakeville, Conn.; J. K. Lineaweaver, Columbia, Pa.; E. Lester, Seneca Falls, N. Y.; J. A. Larrabee, Louisville, Ky.; D. Laferte, Detroit, Mich.; A. M. Miller, Bird in Hand, Pa.; J. H. Musser, Philadelphia; E. S. McKee, Cincinnati, O.; W. H. Myers, Fort Wayne, Ind.; G. M. B. Maughs, St. Louis, Mo.; Liston H. Montgomery, Chicago; H. O. Marcy, Boston; L. Mackall, Washington, D. C.; G. C. Mosher, Kansas City, Mo.; Robert Newman, New York; A. L. Norris, Cambridge, Mass.; G. D. Nutt, Williamsport, Pa.; J. E. Owens, Chicago; S. N. Nelson, Chicago; J. M. Pace, Dallas, Tex.; M. G. Parker, Lowell, Mass.; D. W. Prentiss, Washington, D. C.; P. P. Pomerene, Berlin, O.; E. von Quast, Kansas City, Mo.; J. H. Rauch, Springfield, Ill.; J. A. Ritchey, Oil City, Pa.; D. N. Rankin, Pittsburgh, Pa.; B. K. Rachford, Newport, Ky.; E. C. Sattler, Cincinnati, O.; N. Senn, Milwaukee, Wis.; Eugene Smith, Detroit, Mich.; R. Stephenson, Adrian, Mich.; H. Suter, Georgetown, D. C.; J. L. Stewart, Erie, Pa.; Carl Seiler, Philadelphia; W. C. Short, LaGrange, Ind.; Catherine B. Slater, Chicago; Theo. P. Simpson, Beaver Falls, Pa.; W. C. Simpson, Beaver Falls, Pa.; W. J. Scott, Cleveland, O.; J. V. Shoemaker, Philadelphia; J. M. Toner, Washington, D. C.; Max Thorner, Cincinnati, O.; E. S. Talbot, Chicago; J. D. Thomas, Pittsburgh, Pa.; F. C. Thayer, Waterville, Me.; J. E. Tefft, Springfield, Mo.; J. S. Tipton, Hillsville, Va.; A. Vogler, Newark, N. J.; T. F. Weaver, Collinsville, Ala.; R. H. Ward, Troy, N. Y.; T. L. White, McKeesport, Pa.; J. H. Yarnalls, Georgetown, D. C.; H. B. Young, Burlington, Ia.; F. E. Yoakum, Swedesport, La.; T. J. Young, Titusville, Pa.

INTERNATIONAL CONGRESS.

Tenth International Medical Congress, Berlin, 1890.

Section XIV—Diseases of the Teeth.

By the Committee of Organization the undersigned have been nominated American officers of the Section: Honorary Presidents—W. C. Barrett, M.D., D.D.S., Buffalo, N. Y.; J. Taft, M.D., D.D.S., Cincinnati, O.; Eugene S. Talbot, M.D., D.D.S., Chicago; H. J. McKellops, D.D.S., St. Louis. Honorary Secretary—R. R. Andrews, D D S., 432 Harvard St., Cambridge, Mass.

Two official papers will be read. One by Dr. Barrett, subject: "Crown and Bridge Work;" the other by Eugene S. Talbot, subject: "Irregularities of the Teeth."

Those who wish to offer any communication to the Section on Diseases of the Teeth, or who have anything of interest to present, should send a sufficient abstract of the paper, or a full description of the apparatus or device, to Prof. Dr. W. D. Miller, West Voss Strasse, No. 32, Berlin, Germany; or it may be sent to the Honorary Secretary, at Cambridge, Mass., for transmission to Berlin.

There were over sixty exhibitors at the Nashville meeting of the Association.

BOOK REVIEWS.

Tenth Annual Report of the State Board of Health of Illinois. By J. H. Rauch, M.D., Secretary. Pp. xci, 313. Springfield, *Illinois. 1890.*

The admirable character of the work done by the Illinois State Board of Health is well illustrated in the contents of this report. The greater portion of the volume is occupied with the official register of physicians and midwives which is very complete. The physician's register gives the name, date of registration, school of practice, residence, age, nativity and basis of certificate in each instance. Illinois is the only State in the Union which exercises supervision over midwives, and the weeding-out process which has been so successfully applied to the medical profession has also accomplished considerable good in restraining unqualified women from the practice of midwifery. The proper control of midwives is one of the most important subjects that can occupy the attention of the State Boards of Health, and we hope that the other States will soon follow the lead of Illinois.

In the present report a number of interesting matters relating to interstate quarantine are referred to, particularly the action of the Board regarding an outbreak of cholera; these together with a paper by Dr. Rauch on the history of the Illinois Army Board of Medical Examiners, and abstracts of the Board's minutes add much of interest to the Report.

MISCELLANY.

The McLean County (Ill.) Medical Society met on June 2d at the office of Drs. Mammen and Godfrey, Bloomington. A large number of the members was present. In the absence of both President and Vice-President Dr. Holderness, of Chenoa, occupied the chair. Dr. Taylor reported a case of orbital tumor with naso-pharyngeal catarrh, and one of incontinence of urine with distended bladder; also a case of purpura and eczema together. Dr. Vandervoort reported a case of high specific gravity of urine in an apparently healthy man. Dr. Rhoda Galloway reported and presented a specimen of ovarian tumor and of fibroid polypus. Dr. Mammen read an essay on "Infant Feeding," and exhibited an apparatus for sterilizing milk. The meeting adjourned to meet the first Monday in September.

Health in Michigan.—For the month of May, 1890, compared with the preceding month, the reports indicate that typho-malarial fever, cholera infantum, cholera morbus and whooping-cough increased, and that typhoid fever, membranous croup, puerperal fever and pneumonia decreased in prevalence.

Compared with the preceding month the temperature was higher, the absolute humidity was more, the relative humidity was slightly more, and the day and the night ozone were more.

Compared with the average for the month of May in the four years 1886–1889, membranous croup and cerebro-spinal meningitis were more prevalent, and small-pox, typhoid fever, cholera morbus, cholera infantum, dysentery, intermittent fever and scarlet fever were less prevalent in May, 1890.

For the month of May, 1890, compared with the average of corresponding months in the four years 1886–1889, the temperature was lower, the absolute humidity was less, the relative humidity was slightly more, the day ozone and the night ozone were considerably more.

Including reports by regular observers and others, diphtheria was reported present in Michigan, in the month of May, 1890, at 62 places, scarlet fever at 49 places, typhoid fever at 24 places, and measles at 113 places.

Reports from all sources show diphtheria reported at 9 places more, scarlet fever at 5 places less, typhoid fever at 7 places more, and measles at 17 places more in the month of May, 1890, than in the preceding month.

TIGHT COLLARS AND VISION.—The influence of tight collars in impeding the circulation in the head by pressing on the jugular veins is well known to military surgeons with the troops in India; but the bad effects of such pressure in cooler climates has been demonstrated by the observations of Prof. Förster, of Breslau, who states that three hundred cases have come under his notice in which the eyesight has been affected by the disturbance of circulation caused by wearing collars that were too small. A large number of these cases were probably subjects of myopia.—*Medical Record.*

LETTERS RECEIVED.

Dr. W. W. Potter, Buffalo, N. Y.; F. A. Davis, Chicago; Battle & Co., St. Louis, Mo.; The Imperial Granum Co., New Haven, Conn.; F. G. Alger, Streator, Ill.; Dr. A. A. Warterfield, Union City, Tenn.; Dr. Albert E. Sullard, Franklin, N. Y.; Dr. J. G. McDougal, New Lexington, O.; The Sun, Williamsport, Pa.; Dr. Wm. H. Robb, Amsterdam, N. Y.; Dr. P. R. Hardee, Hampton, N. C.; Dr. G. V. Woolen, Indianapolis, Ind.; Ragsdale & Chassell, LeMars, Ia.; Dr. C. T. Chinn, Blue Grass, Ia.; Dr. H. R. Fox, Carrville, Tenn.; Dr. J. Stedman, Triumph, Ill.; Dr. G. D. Lain, Camp Colorado, Tex.; Dr. R. Callaghan, Kansas City, Mo.; Dr. B. C. Anderson, Beardstown, Ill.; Allen & Yates, Buffalo, N. Y.; Dr. A. A. Sevann, Mt. Sylvan, Tex.; Dr. O. Hasencamp, Toledo, O.; Dr. H. Alvis, Alma, Ark.; Dr. J. C. Blanton, Newmarket, Ala.; Dr. D. Street, Baltimore, Md.; E. Steiger & Co., New York; Dr. G. W. Shidler, York, Neb.; Dr. C. W. Simpson, Ferris, Tex.; Dr. S. Laughton, Bangor, Me.; University of Pennsylvania Press, Philadelphia; Rio Chemical Co., St. Louis, Mo.; Dr. R. Newman, A. A. Marks, New York; Dr. Thos. B. Evans, Baltimore; W. G. Farrar, Chicago; Dr. H. R. Storer, Newport, R. I.; Dr. A. F. Angell, S. Jacksonville, Fla.; Dr. H. L. Taylor, Asheville, N. C.; T. W. Hannaford, London, Eng.; Dr. K. Ruffin, Norfolk, Va.; Dr. D. J. McCaffrey, Blackstone, Mass.; Dr. S. T. Armstrong, New Orleans, La.; Dr. H. W. White, Boston, Mass.; H. H. Howe, Weston, Vt.; Dr. L. A. Roller, Detroit, Mich.; Dr. J. J. Bland, Houma, La.; Dr. R. Baily, Staten Island, N. Y.; Dr. T. H. Lane, Lincoln, Neb.; Wm. D. McGowan, Pittsburg, Pa ; The Medical Advance, Ann Arbor, Mich.; W. F. Ford, New York; Dr. R. M. Wyckoff, Dr. E. J. C. Minard, Brooklyn, N. Y.; Dr. C. F. Starkweather, Philadelphia; Thos. Leeming & Co., Geo. Tieman & Co., Dr. P. B. Porter, The Drevet Mfg. Co., New York; Dr. B. Brock, Olin, Ia.; F. B. Van Siclen, Tottenville, N. Y.; Dr. H. Durand, Paris, France; Dr. J. A. Scroggs, Keokuk, Ia.; Armour & Co., Chicago; Dr. N. Senn, Milwaukee, Wis.; Dr. B. A. Watson, Jersey City, N. J.; Dr. J. B. Hamilton, Dr. G. L. Magruder, Washington, D. C.; C. H. Christensen, Fremont, Neb.; The Victor Safe and Lock Co., Cincinnati, O.; Dr. J. H. Cuffman, Dalark, Ark.; Dr. J. H. Gheesling, Greensboro, Ga ; J. E. Ruebsam, Washington; Dr. H. B. Burkett, Hillsboro, Ala.; Dr. J. L. Taylor, Wheelersburg, O.; Dr. B. M. Ricketts, Cincinnati, O.; Dr. A. L. Hummel, Philadelphia; Dr. G. F. Cook, Oxford, O.

Official List of Changes in the Stations and Duties of Officers Serving in the Medical Department, U. S. Army, from May 31, 1890, to June 6, 1890.

First Lieut. Charles Willcox, Asst. Surgeon, is granted leave of absence for ten days, with the approval of the Secretary of War. Par. 16, S. O. 126, A. G. O., Washington, May 29, 1890.

Major Peter J. A. Cleary, Surgeon, is granted leave of absence for six months, on surgeon's certificate of disability, by direction of the Secretary of War. Par, 4, S. O. 127, A. G. O., Washington, May 31, 1890.

Major Henry McElderry, Surgeon, is granted leave of absence for seven days, to take effect upon the final adjournment of the Army Medical Examining Board, by direction of the Acting Secretary of War. Par. 7, S. O. 127, A. G. O., Washington, May 31, 1890.

By direction of the Secretary of War, Capt. William D. Dietz, Asst. Surgeon, having completed at New York City the duties assigned him in S. O. 29, Div. of the Pacific, April 30, 1890. will return to his station in that Division. Par. 5. S, O. 119, A. G, O., Washington, June 3, 1890.

Official List of Changes in the Medical Corps of the U. S. Navy for the Week Ending June 7, 1890.

P. A. Surgeon I. W. Kite, detached from Naval Hospital, Pensacola, and to hospital, New York.

P. A. Surgeon Thos. C. Craig, detached from Naval Hospital, New York, and to the U. S. S. "Vesuvius."

P. A. Surgeon Frank Anderson, granted leave of absence for the month of June.

Asst. Surgeon F. N. Ogden, ordered for examination preliminary to promotion.

Asst. Surgeon S. S. White, ordered for examination preliminary to promotion.

P. A. Surgeon Henry G. Beyer, ordered on duty on the U. S. S. "Yantic."

Surgeon Manly H. Simons, detached from Widow's Island Hospital and waiting orders.

Surgeon J. A. Hawke, ordered to Widow's Island Hospital and attending officers of Navy and Marine Corps at Portsmouth, N. H.

Official List of Changes of Stations and Duties of Medical Officers of the U. S. Marine-Hospital Service, for the Three Weeks Ending May 31, 1890.

Surgeon George Purviance, detailed as chairman Board of Examiners. May 31, 1890.

Surgeon W. H. Long, granted leave of absence for three days. May 19, 1890.

Surgeon John Godfrey, detailed as member of Board of Examiners. May 31, 1890.

Surgeon Fairfax Irwin, detailed as recorder, Board of Examiners. May 31, 1890.

P. A. Surgeon H. R. Carter, ordered to examination for promotion. May 31, 1890.

P. A. Surgeon C. E. Banks, to proceed to Boston, Mass., on special duty. May 12, 1890.

P. A. Surgeon C. T. Peckham, granted leave of absence for eight days. May 14, 1890.

P. A. Surgeon R. P. M. Ames, to proceed to Memphis, Tenn., for temporary duty. May 14, 1890. To proceed to Gulf Quarantine Station for temporary duty. May 31, 1890.

Asst. Surgeon T. B. Perry, ordered to examination for promotion. May 31, 1890.

Asst. Surgeon A. W. Condict, granted leave of absence for twenty-two days. May 24, 1890.

THE

Journal of the American Medical Association.

EDITED UNDER THE DIRECTION OF THE BOARD OF TRUSTEES.

PUBLISHED WEEKLY.

VOL. XIV. CHICAGO, JUNE 21, 1890. No. 25.

ORIGINAL ARTICLES.

EXTERNAL SURGERY OF THE NOSE.

ILLUSTRATED WITH PHOTOGRAPHS.

Read in the Section on Surgery, at the Forty-first Annual Meeting of the American Medical Association, May, 1890.

BY B. MERRILL RICKETTS, PH.B., M.D.,

PROFESSOR OF DERMATOLOGY AND SYPHILOGRAPHY, CINCINNATI POLYCLINIC; CLINICAL LECTURER ON PLASTIC SURGERY IN THE MIAMI MEDICAL COLLEGE; VISITING PHYSICIAN FOR SKIN AND CANCEROUS DISEASES AND PLASTIC SURGERY TO GERMAN PROTESTANT AND CHRIST'S HOSPITALS, AND CONSULTING DERMATOLOGIST TO THE WOMAN'S HOSPITAL AND MEDICAL COLLEGE.

It would be the height of impropriety for me to attempt to bring the entire subject of external surgery of the nose before you for discussion within the time allotted me for that purpose. The mere mention of the various operations for the removal of necrosed bone, foreign bodies or the various kinds of tumors, from within the nasal cavity, would consume time and cause confusion, so that my remarks will be confined to the report of cases operated upon for the restoration of the nasal prominence obliterated by the causes hereinafter named.

I wish also to refer to the different methods of making this restoration.

There may be deformity, or partial or total destruction of either the hard or soft parts, or both, of this the most prominent facial feature. In the first instance, the alæ alone or with the septum may be absent; in the second, the integument may be wanting; while in the third, the integument, cartilaginous and osseous structures may all be gone.

The greatest difficulty is encountered when the alæ nasi or nasal bones are destroyed, especially the latter, as depression of the ridge is sure to follow; but if the triangular cartilaginous septum be present, this difficulty may be overcome, even though one half of either one or both of the nasal bones be absent. Should the bony and cartilaginous septum together with the nasal bones be wanting, then, and not until then should the transplanting or implanting of osseous tissue be resorted to. When the ala nasi alone or with the septum is absent, I consider that they may best be restored by tissue taken from the cheeks, also when the entire integument is wanting. However, it might be best in the case of women to substitute tissue taken from the arm or forehead. In the latter case the hair could be worn in such a way as to conceal any scar that might result.

With me it is a great question whether the integument of the forehead, with or without the external table of frontal bone, should ever be disturbed for this purpose, especially when the patient is a woman who is to be associated extensively with various people. If, as in the third class, the integument, cartilaginous and osseous tissues are gone, then further consideration would be necessary, such as transplanting or implanting osseous tissue, or utilizing a section from either one or both superior maxillæ.

All measures should be used, if necessary, to avoid occlusion of the nares, as a free nostril is one of the desirable results of the operation.

The causes of any amount of destruction are many, being classed as syphilitic, malignant, tubercular, traumatic, congenital, and I would add perverted tooth development. Whatever the cause or degree of destruction, all operative procedures should be postponed until necrotic changes cease to occur, all of which may be hastened by means of the curette, gouge or chisel. If the patient be a syphilitic, an operation should be preceded by a thorough course of mercury or the iodides; otherwise an operation may be made soon after removing diseased tissue, as in malignant disease, in which case it should be made immediate and radical.

Unlike many operations, each case requiring a rhinoplasty is peculiar to itself, and its favorable result is dependent upon the good judgment of the operator.

The per cent. of cases in which it is desirable to make rhinoplasties, is very small as compared with other operations. This, together with the comparatively few opportunities each operator has during his surgical career, makes it difficult for any one to establish rules, or be dogmatic in his assertions. However, there are quite a number of neglected cases throughout the country, and each man can contribute interesting personal experiences, that will in the aggregate tend tó place the more radical operations upon a higher plane, especially now that so much is being done in transplanting and implanting osseous and cartilaginous tissue. We may expect in this, as in many other branches of surgery, better results than have heretofore been secured.

Case 1.—Miss ——, colored, æt. 21, was referred to me during the spring of 1888 by Dr. B. K. Rachford, and was in a fair physical condition. She stated that a small sore appeared upon the tip of the nose a little to the right of the median line, about three years previous, which gradually increased in size until the entire upper lip and nasal alæ were covered with a phagedenic ulcer having somewhat the characteristics of an epithelioma, for which it had been treated by several physicians. Although there could be found no history of either hereditary or acquired syphilis, I gave her ¼ gr. of protiodide of mercury after each meal. At the end of twenty-five days the crusts were gone and the ulceration healed, after having destroyed the entire right ala nasi with a portion of the left, and one-half of the triangular cartilaginous septum. About this time I had an opportunity to examine the mother, whose face I found disfigured with syphilitic cicatrices which had existed, as she stated, for twenty-four years. Thus we have almost every evidence that the cause was hereditary syphilis. She continued to take iodide of potassium and mercury until the following December, when I operated in my private hospital (the Trinidad), by attaching a pedunculated graft from her right arm. Owing to displacement of the arms the stitches on one side were torn out, causing the operation to be but a partial success; however, the flap grew upon the side remaining sutured, so that at least two-thirds of the restoration was accomplished. During the next six weeks I was ready to complete my work, when she was seized with typhoid fever and sent home, where she died on the twenty-first day of the disease.

Case 5.—Mr. ——, æt. 24, robust and temperate, came under my care during the winter of 1888–89. There was complete depression of the soft parts, indicating the total destruction of the cartilaginous and bony septum, together with vomer, turbinated bones, hard palate and inner surface of superior maxillæ. There was a foul odor, and an examination revealed the presence of diseased bone, but the two nasal bones were intact. At the age of 14 years his nose was perfect in shape, but at 17 he noticed a slight offensive discharge which gradually became more profuse and obnoxious. There was soon a slight depression in the centre of the nasal ridge, which also grew deeper, so that at the age of 20 there was general depression, and it has become greater and greater ever since. On two different occasions I removed necrosed bone, the last time (May, 1889) making it complete. The total destruction of the bones led me seriously to consider the propriety of implanting or transplanting osseous tissue. However, I decided to give him the benefit of that much cherished doubt, by first taking a flap from each cheek, knowing that bone grafting could more easily be accomplished after this had been done.

The substitution of the breast bone of a fowl, the femur or humerus of the rat, guinea-pig, squirrel or rabbit, for the outer table of the frontal bone, the elevation of a piece of each superior maxillary bone so as to form a rafter, as in the gable of a house, all were before me, each presenting its advantages and disadvantages. Then too, the operation which consists in taking integument from the forehead was considered, also that of utilizing tissue from the arm, but I felt assured that my first impression was best, namely: to take the tissue from the cheeks. This I did, after keeping him upon mercury and the iodides for several months.

The history was vague, there being no indication of either hereditary or acquired disease. Not until eight months after did I see his mother, who consulted me with reference to a sore upon the leg, of fourteen years' duration. I suspected it of being of specific origin and gave her $\frac{1}{16}$ gr. of bichloride of mercury, together with 15 grs. of iodide of potassium after each meal. This seemed to be the keynote to the problem, as the ulcer immediately began to improve and finally disappeared. I was soon satisfied that the young man's source of infection was through the mother.

Case 7.—Mr. K., æt. 69, in a good physical condition, sent to me by Dr. B. P. Goode, July 6, 1889. There was a papillomatous growth about the size of a wren's-egg situated upon the under surface of the point of the nose, a little to the right of the median line, which appeared about six weeks previous to his visit to me. Its development was gradual, with elongated and hypertrophied papillæ that were easily separated; when this was done, however, a slight capillary hæmorrhage would occur. The lower half of the nose was hypertrophied, softened, and covered with numerous broad and deep sebaceous follicles, which condition aided materially the rapid and destructive development of an epithelioma, such as the microscope proved the growth to be.

I advised amputation, and replacement of tip and entire nasal integument, which was done on August 4, 1889, at the German Protestant Hospital. I made an incision on each side including the alæ, afterward dividing the cartilaginous septum, I dissected up the skin to a line parallel with the eyes. A flap 1½ inch wide was taken from each cheek, with pedicle at inner canthus, and brought to the median line, united with silk and allowed to rest upon the remaining septum. The nose was, however, shortened about $\frac{3}{16}$ of an inch, as is shown in the photograph. This was due to the patient being a male, and having a great amount of hair upon the upper lip, it would have been necessary to extend the incision farther down the cheeks to cover the full length of the septum, and in such an event the nose would have been covered with a part of his moustache—an event not to be expected in the case of women. Thus it is seldom that the conditions are the same with men as with women.

There is no cicatrix to be seen, nor drawing of the eyelids or lips, while the labio-buccal fold conceals the line of incision, so that it would be difficult to determine by careful examination the source from which the flaps were taken. It is now ten months since the operation, and no indication of a return of the disease. He has nasal respiration and suffers no discomfort except slight tenderness at times over the ridge. His facial appearance is by far better now than before either the operation or appearance of the disease.

Case 9.—Mrs. ——, æt. 70, fair health, has suffered with lupus vulgaris of right ala nasi for eight years. The entire cartilaginous margin was destroyed, and the disease gradually encroached upon the surrounding structures. She was operated upon in the German Protestant Hospital by removing the integument of the diseased side and replacing with a flap taken from the corresponding cheek, its pedicle being attached from above, as there would be less deformity from cicatricial tissue than when attached from below. Then too, there were no hairs upon the cheek and upper lip to contend with, as would have been the case in a man. There is quite an ugly scar upon the cheek when the pedicle is attached from below, while that from above leaves the line of incision concealed within the labio-buccal fold. She made a rapid and favorable recovery with a niche to be seen, showing that the flap was rather short. I discovered this error immediately after the flap was taken, but decided to take my chances in securing union, which did not take place throughout. At her age she does not care to have the slight defect remedied.

Case 11.—Miss ——, æt. 22, of excellent physique, was referred to my clinic at Miami Medical College by Dr. L. Colter, April 8, 1890. That portion of the nasal ridge corresponding to the cartilaginous septum was destroyed, and the tip of the nose was thrown back so that it pointed upward and outward at an angle of 45° to a horizontal plane of the face. Further examination revealed the absence of the bony septum, vomer and turbinated bones, the inner or nasal side of superior maxillæ remaining. There was a discharge, mild in its offensiveness, which had made its appearance at the age of 16 years, the first indication that disease was present. This gradually became more profuse and offensive, until all the nasal structures were destroyed. The two nasal bones, however, remained intact. There were no indications of syphilis, either from my own examination or her own statement, so that the cause of the necrosis was indeed obscure. Reflected light revealed the presence of a hard white body which was supposed, as I was informed, to be bone.

I determined to operate at once and restore the nasal body, with a flap taken from each cheek. I sent her to Christ's Hospital and operated April 16, 1890. I began by transfixing the alæ at the point of greatest depression, which divided the parts equally in a perpendicular line, and finished my incision by cutting upward. This done, I drew down the lower portion and explored the nasal cavity with my index finger. I found no diseased bone present, but my finger came in contact with some foreign body evidently not bone, yet I was uncertain as to what it was. It lay along the floor of the palatal process of the superior maxillæ and extended backward and to the left, and was so firmly imbedded that it was exceedingly difficult to remove it, which I did with the bone curette, not having forceps with which I could grasp it firmly enough to dislodge it.

Having done this much, the cavity was perfectly smooth and free from any obstacle that would suggest further interference, so from each cheek I cut a flap 1¼ inch, leaving a pedicle ⅜ inch wide at naso-frontal margin. The inner borders were brought to the median line and there sutured with fine catgut, the lower portion having previously been drawn down so that the point of the nose was in about its normal position; the flaps now filled the space thus formed by this manœuvre, and the remaining free margins were sutured to the lower section of the nose. Due allowance was made in cutting the flaps for the contraction of the tissue, so that at first there seemed to be a redundancy of tissue. The edges of the wounds made in the cheeks were now brought together and healed very nicely by first intention; only a small spot was left to granulate on either side.

This case presents the most novel features of all I have had or heard of, in that the presence of the tooth is most likely the cause of necrotic changes. She has all of her upper teeth with the exception of the left canine, in a most excellent state of preservation. The germ tooth being present did not fail to assert its right to development (one of the strongest instincts of Nature), and in doing so, encroached upon already occupied territory. Dentine being harder and of greater vitality than bone gained the victory, leaving its dead within the nasal cavity to be removed as Nature saw best, which was by the usual process—decay.

Had I a parallel case, I should utilize a section from each superior maxillary bone in connection with what has been done in this case; not that I would expect a better primary result, but that I would be better able to judge the efficacy of such an operation.

CONCLUSION.

In conclusion I would say that from general and personal observation, I am fully aware of our shortcomings in the treatment of malignant diseases of the nose.

In many cases amputation of diseased tissue, extirpation of diseased bones entire, or excision of merely the necrosed bone should be made, and the soft parts replaced by one of the foregoing methods, and this should be done, too, at the earliest possible date. This restoration of the soft parts by flaps taken from the cheek or cheeks, is the method to receive *first* consideration. The method of taking the flap from the arm should be *secondly* considered, and from the forehead *thirdly* considered. This is the order of value of the three methods.

Silk is the only material to be used in suturing the soft parts, and silver wire for suturing the bony parts.

When bony restoration is to be made, the sections should be taken from the nasal border of each superior maxillary bone in preference to being taken from the frontal bone, from the hand, or from the lower animals. It is from this method that the greatest successes of the future are to come.

No case of partial or total absence of the nasal prominence should be allowed to go uncared for, and exploratory incisions should be made in all cases of obscure conditions of the nasal cavity, due to whatever cause, for by resorting to the various lines adopted for incisions, to turn the nose aside, no deformity or serious consequences follow.

The operations of Rouge, Olliver, Maisonneuve, Dieffenbach, Cheever, Langenbeck, Péan, and Bruns, are all familiar to you, gentlemen, and will serve as guides to decide many obscure and difficult problems for you.

Upon examination of the oral cavity, in any necrosis of the nasal bones with pain, care should be taken to discover whether any tooth has failed to appear; if so, be on your guard, for if that tooth has taken an upward growth, it may rarely be the cause of nasal deformity.

Lastly, I would most earnestly invite more general experimentation with the various kinds of grafting, from tissue of some of the lower animals.

PHYSIOLOGY AT VIENNA.——After the retirement of Prof. Ernst von Brücke from the chair of physiology in the University at Vienna, which will take place at the end of the present scholastic year, there will be two professorships provided for this branch of instruction. According to the *British Medical Journal*, this new departure has been rendered necessary by the fact that the classes have become too large to be satisfactorily managed by one professor.—*Med. News.*

SOME PROMINENT FEATURES COMMON TO DRUNKENNESS AND GENERAL PARALYSIS OF THE INSANE.

Read in the Section of Medical Jurisprudence, at the Forty-first Annual Meeting of the American Medical Association, Nashville, May, 1890.

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Alienists long ago pointed out the remarkable similarity that exists between certain prominent features of drunkenness and those of paresis. And this resemblance between the appearances and symptoms of the two affections is not surprising when it is remembered that a certain grade of *universal paralysis* is an essential condition in both of them.

While it is true that there is a striking sameness in the superficial features of paresis and drunkenness, there are, nevertheless, certain facts which impress an individuality upon each, and which may serve, upon occasion, to distinguish one from the other.

For instance, in drunkenness there are particular chemical affinities belonging to alcohol, which tend to produce physical changes in the structure, that are unknown in paresis. Such changes are perceived in the appearance of the blood globules, and in the disturbance of their functions when they are influenced by the presence of alcohol in the circulation. The distinctive features of drunkenness are made prominent, also, through the gradual accumulation of secondary poisons in the system. These poisons are brought into the circulation through the chemical influence which alcohol exerts upon the general structure. Chief among these deleterious substances, may be mentioned carbonic acid and urea.

There are also other important modifications in physical structure arising from prolonged alcoholic influence, which differ from the progressive structural changes observed in paresis. The final result is that the chronic inebriate, and chronic paretic, appear much more diverse in character than the same persons do when the diseases are recent; for in their earlier history they are guided and dominated by a general paralytic condition almost exclusively.

The more obvious and striking symptoms, therefore, that are common to active intoxication and paresis, are those growing out of the presence of general paralysis in both affections.

Authors tell us that in paresis, the paralytic disability, while implicating the motor powers—such as locomotion, articulation, and the facial expression—extends at the same time to the nervous organism that is employed in expressing rationality and intelligence; and also to that other portion of the same system that is associated with the exposition of the moral nature: "The concurrence and concurrent increase of mental and motor disorder" (in paresis) "are not accidental, but constant. The patient loses the power of performing both ideas and movements, and gets worse and worse generally in both respects. Paretic symptoms present a remarkable group, in which mental impairment and motor paralysis proceed together with pretty equal steps."[1] Another writer[2] says of paresis, that it is "simply a deterioration of a man's whole nervous organization. The proper name for the disease is not *paresis*, but *general paralysis*."

Thus it appears that in paresis, the motor and the intellectual and moral impairments are all present at the same time, and proceed together in a community of incoherent symptoms and movements.

In this respect the phenomena of paresis are like the changes progressing in acute drunkenness; for the paralysis of active intoxication involves the entire nervous organization. Alcohol is carried everywhere by the circulation, and it necessarily impresses all the nerve centres. Hence in drunkenness, the motor and the intellectual and moral centres are, at one and the same time, in a disabled and partially paralyzed state.

1. In drunkenness, the functions of the motor system are greatly hampered and deranged. While there is insufficiency in muscular *force*, there is also serious disorder in the powers of muscular *coördination*. Movements are not only weak, but they are out of harmony with each other. The walk is staggering, the articulation imperfect, and the expression of the countenance unnatural and fatuous.

In general paralysis of the insane there is, likewise, weakness and incoherence in the muscular movements. "This disorder is marked by general and progressive loss of coördinating power over the muscles, especially those of speech and locomotion."[3] It is declared that "precise coördination of movement, such as is necessary for writing, sewing, playing upon a musical instrument, and like acquired automatic acts, is much impaired, or quite lost."[4]

This is also an excellent description of the disabilities which beset a person who is in a state of intoxication. When there is doubt whether or not a person is under the influence of alcoholic liquor, the question may ordinarily be solved, when the *gait* of the person is carefully noted. Even in slight intoxication the feet seem to be weighted. They are not raised the usual height from the ground. Every few steps there will be shown a slipping, or scraping of the boot upon the pavement.

In paresis, the gait is similarly modified. "It is feeble and shuffling, and the person affected easily stumbles at a step, or on uneven ground."[5] There are many other fine and almost imperceptible points in motor activity wherein drunkenness and paresis closely resemble each other.

2. The similarity of many of the mental features of paresis to those of drunkenness, is indeed surprising. The feeling of *egoism* in paresis is generally exaggerated to the highest pitch. It is one of the most constant symptoms, as well as one of the most striking, of that malady. "A patient believed he had intercourse with the Almighty and the Holy Ghost; that he had £40,000 in the London and Westminster Bank; that he was King of England,"[6] etc. Describing this mental condition of the paretic, a writer says: "He brags continually of his grand wealth; . . . his boastfulness turns to evident delusions. He is the best rider, or jumper, or card player, or fencer, or fighter, in the world."[7]

An almost perfect counterpart of all this is seen in the exaggerated feelings and unbounded self-exaltation of drunkenness. "The exhilaration stage, or preliminary effect of alcohol, is a state of pleasurable elation, of pleasant and grandiose ideas, of mental excitement and rapid ideation—such an exaltation and mental activity as we often witness before a maniacal outbreak, or an attack of general paresis."[8]

Two young men, very drunk, were passing a private dwelling. One of them was completely overcome near the entrance of the house. The other with much difficulty managed to come in. He inquired whether his friend might be brought in and cared for, at the same time remarking that the business could be easily effected, as he was, himself, a man of "herculean strength." Permission was given, and the young man proceeded to carry his friend into the shelter that was proffered. He had great apparent difficulty in raising a single leg of the fallen man; and finally, giving a pull, his hands slipped off, and he staggered sidelong and backward until he measured his length upon the ground, where he remained perfectly helpless until both himself and comrade were taken away by friends. The point is, that this man, although totally disabled, was honestly of the opinion, when he went out of the house, that he could pick up and carry his fallen companion like a child in his arms.

A paretic is mentioned "who could scarcely stand, or lift his hand to his head, yet he asserted that he could write his name on the ceiling with a 500 pound weight hung on his little finger."[9]

But there is another phase of egoism, or *self-assertion*, which has very much the same appearance both in paresis and drunkenness. Perhaps it is rather a condition of the disposition or of morals, than of the mental powers proper. However that may be, the individual, with slight cause, or no cause at all, "will in a blind fury attack all around, exerting his muscular powers to their utmost, regardless of all consequences." Of course such displays can take place only in the early stages, either of drunkenness or paresis, before the muscular system becomes very greatly paralyzed. "These are the patients" (paretics) "whose ribs are broken by attendants in efforts to overpower them, and who, in various ways, cause so much confusion in asylum wards."[10]

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[1] Maudsley, "Path. of Mind," pp. 433-443.
[2] D. F. Kellogg, New York Sun.
[3] D. Hack Tuke, "Psychological Medicine;" p. 322.
[4] Maudsley, "Pathology of Mind," p. 437.
[5] Maudsley, "Pathology of Mind," pp. 436-437.
[6] D. Hack Tuke. [7] Kellogg.
[8] Norman Kerr, "Inebriety," p. 18.

Everybody can easily recall very similar exhibitions of mind and conduct in the drunkard. The maniacal fury of the alcoholic state has "many a time and oft" wrought the destruction not only of property, but of life itself. The following example of drunken mania is furnished to the writer by Dr. Chenery. It was not given with a view to illustrate any point in particular, but simply as a characteristic fact; "I was called in the night to see a dry-goods clerk who was smashing things generally. He was pretty drunk, but later a frenzy seized him. His eyes were staring very wild. His most pronounced impulse was to rush head foremost out of the window, sash and all. He wanted to kill himself, and asked for a pistol to shoot himself with. He was taken to the police station, and when he came to his natural state he could not understand his case at all." These alcoholic window smashers and general destructives are known to everybody; for amongst the immense number of intoxicated individuals, they of course appear quite frequently. In paresis, however, in consequence of that disease being infrequent, they do not come into view so often.

3. Not only are there motor and mental paralyses and incoördination in both paresis and intoxication, but there are also conspicuous degenerations and decay of the moral attributes. The paretic will often take possession of things that belong to others, and claim them as his own; and that, too, in a manner not particularly stealthy or surreptitious. He acts as though he had a certain authority or right with respect to them. Indeed, some unexpected act of dishonesty or indecency, is frequently the first notification of approaching paresis.

It is well known that theft is also a common accompaniment of drunkenness. This is sometimes explained upon the hypothesis that alcohol simply exposes a man's real nature; and indeed it is thought by some inconsiderate people, that if a man is wicked enough to drink, he is wicked enough to steal. This is an easy way to solve a very knotty problem; and to persons who are more conceited than wise, it appears to be eminently satisfactory. It is, however, absurd to suppose that a man who exposes himself to the penalty of theft, will, if truly in his right mind, steal such things as are of no value to him, or steal in such a way as will assuredly result in his detection. For example: an old soldier, once wounded in the head, always stole when drunk; but he confined his thefts wholly to bibles; and he was transported for his persistence in bible stealing. Another man (being drunk) stole spades only; another was punished for his seventh theft of a tub,[11] etc. There is something more here than the simple dishonest impulse to steal for gain. It is certain that a distinction should be made between the criminal who, from force of habit and inclination, pursues his unlawful avocation impartially, drunk or sober, and the man who is never guilty of dishonest practices unless he is under the influence of liquor.

A young man, drinking alcohol, stole a horse. He tried openly to sell the animal to people not far from the scene of the theft. He finally sold the horse, and was arrested in the act of entering the cars with the evident intention of returning to his home, and to the neighborhood of the owner of the horse. But the fact was, that he mounted the horse in the presence of its owner (who was an acquaintance), and who made no effort to restrain him. To those he met on the road he told correctly his name and where he lived. He was acquitted upon trial, upon the ground that his drunkenness was such as to incapacitate him from forming a rational intent. He claimed that he had no recollection of the main facts of his life on the day of the theft.

But in a few months the young man got drunk again and stole another horse. The animal was found, tied in an unfrequented place. The circumstances of this theft were of a character as absurd and aimless, as they were in the former transaction, above described.

Here was a dilemma indeed. It was reported that the neighbors were "hot" about the affair, and loudly declared that it was only necessary to "get drunk" if one wanted to steal a horse and escape punishment. The attorney advised his client to plead guilty in the second offense. This was done, and the young man is now suffering the penalty of crime.

The probability is, that when this person obtains his liberty he will, if he gets drunk, simply steal another horse and sell it, or give it away, or hide it in some sequestered place, and when sober again will have no recollection whatever of the affair. This man is not quite of age. He has a long narrow head, intelligence below the average, light complexion and pleasant countenance—which excites the sympathy of any one in communion with him. He says he has no remembrance of what takes place while drunk.

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[9] Blandford.

[10] Blandford, "Insanity and its Treatment," p. 278

[11] Dr. A. Peddie, testimony before committee of House of Commons in 1872.

4. Another point of resemblance which is frequently observed in the paretic and the drunken man, is defective ideas respecting the nature of decency and of common prudence. "The paretic does things which even a patient afflicted with what is termed moral insanity would not do; expose his person—often apparently half unconscious of what he is about; commit assaults in a foolish manner upon women, without regard to opportunity, place or consequences."[12]

A better description of the unseemly conduct quite common with persons who are in an advanced stage of intoxication, could not be formulated. Everybody must recognize the picture as a true delineation of certain characteristic features of drunkenness.

5. In the *treatment* of drunkenness, as in that of insanity, kindness is much more effective than force and punishment. It is an established opinion among alienists, that gentleness is stronger to restrain and recover the insane, whenever its application is possible, than violence. In drunkenness also, either when the fit is on, or is off, gentleness is the sheet-anchor in treatment. The incarcerations, the fines, the insults and the admitted design to make drunkenness "infamous," have failed signally as missionary efforts. A kind look, a friendly word, will do more towards staying the drunkard in his downward course than a thousand punitive applications.[13] The raw, and chafed, and quivering nerve of the neurotic temperament, which so often impels the inebriate to seek the quieting effects of alcohol to assuage his agony, illy brooks the application of the rough and pitiless hands of hate and contumely. Both in insanity and in drunkenness, insolence of language, and indignities offered to the person, fasten the malady stronger upon the patient; for there is in both of these classes, a deep and abiding feeling that they are somehow or other *wronged* when they are cruelly and contemptuously treated.

Crimes committed by paretics who have advanced so far as to exhibit symptoms, either of grandeur or of destructiveness, would be held as without guilty intent. But an intoxicated person exhibiting practically the same symptoms, arising practically from the same cause (a general but indefinite paralysis of the entire organism) would be acquitted of criminal acts only with the greatest difficulty. Usually the drunken man would be convicted, and that too with much gratuitous insolence and contempt. That the one disease is persistent, and indeed incurable, while the other is of brief duration, should not, surely, make this wide distinction in criminal responsibility. While drunkenness is actually present in a stage of considerable advancement, it would certainly appear that the mental disability is very similar to that in a corresponding stage of paresis.

In both conditions—drunkenness and general paralysis of the insane—there is the same general nerve incompetency extending throughout the whole organism. It affects at once, and in common, the motor, and mental, and moral capacities.

"The better rule of law," says Mr. Clark Bell, the distinguished President of the New York Medico-Legal Society, "now undoubtedly is that, if a person at the moment of the commission of the act was unconscious, and incapable of reflection or memory from intoxication, he could not be convicted. There must be motive and intention, to constitute crime; and in such a case, the accused would be incapable, from intoxication, of acting from motive."[14]

THE THERAPEUTIC VALUE OF ANTIPYRIN IN SOME DISEASES OF CHILDREN.

Read in the Section of Diseases of Children at the Forty-first Annual Meeting of the American Medical Association, Nashville, Tenn., May 20, 1890.

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The daily experience of the medical practitioner demonstrates the truth that no class of remedies of recent introduction has proved of so much value and interest to him as that of which antipyrin is the type. Especially is this statement applicable to the diseases of infancy and childhood.

Originally introduced, as its name implies, as an antipyretic, antipyrin has in practice developed equal if not more important properties as a neurotic remedy. How this latter action is accomplished or upon what theory the *modus operandi* is explained has not yet been determined. Empirical observations have, nevertheless, established the fact that antipyrin and its congeners are amongst the most valuable and reliable nerve sedatives that we now have at our disposal.

In considering the therapeutic value of antipyrin in the diseases of children, it is not my intention to discuss the entire field to which its virtues may be applicable, but to present to the attention of the medical profession only certain diseases in which my experience has shown decided results favorable to this remedy. In this I am pleased to find my observations confirmed in numerous instances by many others.

The only disease affecting children in which I employ antipyrin as an antipyretic is pneumonia, either the croupous or the catarrhal form. And even here I seldom resort to it unless the temperature runs above 104° F., near the onset of the attack, inducing symptoms of nervous irritation, indicating a tendency to convulsive seizures.

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[12] [illegible] its Treatment," p. 272.

[13] [illegible] nly to persons who are drunkards fror [illegible] (dipsomaniacs), or from physical injuries received, or from morbid degeneration of physical structure—to those, in fact, in whom inebriety is strictly a disease.

[14] "Medical Jurisprudence of Inebriety," p. 7, and authorities there cited.

The high temperature of pneumonia, whether in adults or children, is generally regarded as a dangerous element of the disease, on account of its supposed tendency to cause heart failure from granular degeneration of the cardiac muscular fibre. This view may be correct as applied to a continued fever, as typhoid for example, but heart failure in pneumonia is more rationally explained, in my opinion, by the continued strain produced from overcrowding and sudden dilation of the right heart, the result of engorgement of the pulmonary circulation, when the area of lung involved in the inflammatory process is extensive. This condition is best relieved by other means than antipyretics. The chief danger of high temperature in the pneumonia of children, in my estimation, is the production of an attack of convulsions, due to cerebral congestion; this latter condition being due to the poorly oxygenated state of the blood, thereby offering a highly susceptible condition for the convulsive seizure, through the effect of the fever.

It must not be overlooked that pneumonia is a self-limited disease, unless of the disseminated catarrhal form in children, and the less active interference with its natural course is employed the better will be the results. Antipyrin, besides its antipyretic action, will allay nervous disturbance when not given too freely, and this point is of prime importance. I administer 2½ to 5 grains, dissolved in water or suspended in syrup, repeated every hour for 4 doses, once in the 24 hours. I prefer if possible to give it towards evening, so as to secure sleep, which commonly follows as a result of its sedative action. Occasionally it may occur that the little patient is asleep before the time for the third or fourth dose has arrived. In such a case the entire dose is not given as the sleep is ordered to be undisturbed.

I have never seen any but the very best results follow its administration in the pneumonias of children when used in the manner I have mentioned.

But my most marked success with antipyrin has been in the treatment of chorea. About one year ago my attention was directed to its employment in this disease, on learning of its use by Dr. Horatio C. Wood, in his clinic at the University of Pennsylvania Hospital. Chapin, in the article on chorea, in the "International Medical Annual" for 1889, reports a case presented at the above named clinic, in which one week's treatment by antipyrin produced quiet after the case had just previously been for three weeks under the arsenic treatment without benefit. My own experience in the treatment of one case of chorea in my clinic at the Out-door Department of Mount Sinai Hospital is fully corroborative of Dr. Wood's case. A girl 12 years of age who had chorea with rheumatic symptoms was treated for two months with arsenic and bromide of potassium; the arsenic being gradually increased in dose until she was taking 7½ drops of Fowler's solution with 15 grains of bromide of potassium three times daily. A part of this time iron and digitalis was also administered for a cardiac complication. The choreic movements, which were of the minor form, not improving, antipyrin in 10-grain doses, repeated three times daily, was given, and in four weeks all choreic movements had ceased.

This treatment for chorea has been used by me thus far in seven cases, two being still under treatment with improvement. Of these seven cases, one was cured in one week, two in three weeks, the one above related in four weeks, and one, the severest of all, in six weeks. The last was the case of a girl 9 years of age, caused by chagrin at not receiving promotion in school, and was first seen on the fourth day of the attack, when the excursions were extensive and severe. Antipyrin, in doses of 7½ grains, four times daily, was ordered. At the end of the first week of treatment the movements were much quieter, although, in the meantime they had been more severe than when first seen. About the tenth day of treatment an extensive urticarious eruption, of a coppery color, unattended with itching, appeared over the face and body, and in consequence the number of doses was reduced to three daily. In two weeks the eruption had entirely disappeared. Complete cure was effected in six weeks. No other ill effects from the antipyrin than the eruption were manifested.

When we reflect that according to the report of the Collective Investigation Committee of the British Medical Association on chorea, which report was prepared by Dr. Stephen McKenzie (*British Med. Jour.*, *1887*) and is based upon the returns of 439 cases, the results of drug treatment, the favorite remedies being arsenic and iron, showed an average duration for the disease of ten weeks, the same duration being shown with non-drug treatment (that is hygienic and dietetic measures only), I think we are warranted in granting a foremost place to antipyrin in the management of chorea. The average duration for the disease in my own cases was only four days.

Nineteen cases of chorea, two of which were very severe, have been treated with antipyrin by Dr. Jean Bouisson, of Lyon, France (*Lyon Médicale*, Feb. 9, 1890). Eleven of these were completely cured and six greatly improved. The duration of the disease is not mentioned.

The close relationship of chorea to articular rheumatism in a large proportion of cases, as shown by the observations of Sturgis (*Archiv*

Pediat., 1887) based upon an analysis of 177 cases, may to a certain extent explain the *rationale* of the beneficial action of antipyrin in chorea. Sturgis concludes that chorea is only another manifestation of the same morbid condition as articular rheumatism, especially relating to the period of childhood. Other careful observers regard the rheumatic disposition as influencing fully one-third the cases of chorea, a smaller percentage being known as fright chorea, due to emotional disturbances.

We must certainly be acquainted with the fact that antipyrin has already secured firm recognition as a reliable remedy in the treatment of articular rheumatism, and it is most probable that its beneficial action in this disease may be explained on the principle of its antiseptic influence; the poison of articular rheumatism being undoubtedly the product of a fermentation in the stomach depending upon some specific germ.

It would certainly seem that the antiseptic action of antipyrin is the correct explanation of its favorable effect in pertussis, and it may be interesting to note that it was with this view of the pathological origin of the disease, which was subsequently successfully demonstrated by Affanasieff, that it was originally introduced as a remedy by Sonnenberger.

For the past two years I have depended entirely upon antipyrin as a remedy in pertussis, and so far have seen no reason to change my practice. I have treated forty-five cases of pertussis, two being complicated with a severe degree of catarrhal pneumonia, with antipyrin, and all have recovered in a shorter period of time, or the attacks lessened in number and severity than previons cases under any former plan of treatment.

Ordinarily, my plan, in a simple case of pertussis, is to administer from 3½ to 7½ grains of antipyrin in syrup of wild cherry and water, three times daily, according to age. Where pneumonia became a complication the method of administration was changed to that before mentioned in the early part of this paper.

Many practitioners have no doubt met with cases of urticaria that have resisted the time-honored treatment rhubarb and soda mixture, either alone or combined with bromide of potassium or many other remedies. To such I can confidently recommend the use of antipyrin, given either alone or in the rhubarb and soda mixture, or, what is pleasanter, the compound syrup of sarsaparilla. Let it be distinctly understood that I do not refer to ordinary acute attacks of urticaria that will disappear under restricted diet alone, but to persistent cases that will continue in an intermittent manner for months, in spite of arsenic and other known remedies. In such cases I have found antipyrin to act with speedy relief. Urticaria, being a neurosis of the skin, we have here another illustration of the broad field of usefulness antipyrin possesses as a neurotic remedy.

To mention the highly beneficial effect of antipyrin in headaches and neuralgias would be repeating what is now an oft told tale, but I find in my notes several cases occurring in children that have been relieved promptly as in adults.

In conclusion I would express the opinion that antipyrin is the type of the most useful remedy, with the broadest field for action, that has come to our notice since the introduction of chloral and carbolic acid.

47 West 56th street.

TROPHO-NEUROSIS OF THE ORAL CAVITY, WITH ESPECIAL REFERENCE TO SYPHILITIC NECROSIS.

Read in the Section of Dental and Oral Surgery at the Forty-first Annual Meeting of the American Medical Association at Nashville, Tenn., May 22, 1890.

BY G. FRANK LYDSTON, M.D.,
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At the meeting of the Southern Surgical and Gynæcological Association held in Nashville, November, 1889, I had the pleasure of presenting certain views regarding the relation of tropho-neurosis to the phenomena of syphilis. In that essay I endeavored to show the dependence of every phenomenon characteristic of syphilis upon certain more or less obscure changes in the sympathetic nervous system (organic or functional, temporary or permanent), which resulted in aberrations of its trophic function. The more thoroughly I studied the phenomena of syphilis, the more firmly convinced I became not only of the dependence of syphilitic phenomena, but that of many other morbid changes which have hitherto appeared inexplicable, upon tropho-neuroses.

In a general way it may be said that disease affecting the animal body can only be produced by one of two things, *viz.*: (1) Perversion in the quality or quantity of the nutritive material which constitutes the pabulum upon which the various structures of the body feed; (2) some perversion of that nervous energy upon which building up of the tissues depends. As in building a house, if the workman be skilled and his materials good, the result is a good house. So in the building up of the tissues; if the nutrient pabulum (or lumber) be first-class, and the workman (the nervous system) performs his functions properly, the result will be healthy tissue. Now, what is it that acts as a governor for the process of tissue building? Certainly the sympathetic nervous system. The sympathetic system, through the medium of its trophic fibres, indubitably presides over the functions of nutrition, of waste and repair. Incidental to repair we have a reproduction of cell growth through the medium of the leucocytes. If the integrity of the sympathetic ganglia or their efferent nerves be impaired, the young cells in the process of growth, instead of developing into a normal deposit of connective tissue cells, fail to become perfectly differentiated; as a consequence they retain the physical characters of young or embryonal cells. Not only do these young cells fail to be transformed into vigorous tissue structure, but they manifest the usual tendency of embryonal cells, viz.: to rapidly proliferate and speedily degenerate.

It is found on section of the syphilides, wherever found, that they are composed of cells in no wise different from young connective tissue cells. Fessenden Otis lays much stress upon this point. There seems to be but little difference between the syphilized cell and that progenitor of all connective tissue cells—the leucocyte. An increased rapidity of proliferation, perhaps a trifling increase in size upon the average, and the power of infecting healthy tissue, are the only new properties which the cell acquires by virtue of its syphilization. With the exception of the property of infectiousness, these qualities are possessed by all imperfectly differentiated cells. Place a young connective tissue cell and a syphilitic cell under the microscope, and we cannot tell the one from the other.

The morbid propensities of embryonal cells are well shown in cancer, in which disease, if Cohnheim be correct, they are the foundation of the morbid process. I firmly believe that malignant growths are explicable upon the same grounds as syphilitic neoplasia. It has seemed to me that the reason an injury of the tissues in one individual is followed by cancer, while in others normal repair occurs, is that in the former the functions of the sympathetic system are impaired, and instead of a normal differentiation and building up of the cells, there occurs a heaping up of embryonal cells. There is practically no difference between such embryonal cells and those which, according to Cohnheim, remain imprisoned in the fœtal structures to develop under proper stimulus into cancer in after life. The development of imprisoned embryonal cells this celebrated pathologist believes to be the *fons origo et mali* of cancer.

In considering abnormal tissue growth we must first consider the medium through which normal tissue growth occurs. If we accept the view that normal tissue repair depends for its performance upon the integrity and function of the sympathetic nervous system, we must *nolens volens* accept the view that any pathological process in which a heaping up of tissue, degraded or otherwise, occurs, is produced through the medium of some aberration of the trophic function of the sympathetic. This, it seems to me, is an indisputable fact, and is the basis of my theory of the tropho-neurotic character of the phenomena of syphilis. There are numerous trophic disorders which are pertinent to the question of the dependence of the lesions of syphilis on a sympathetic neurosis; for example, bed sores, perforating ulcers incidental to paralysis, certain abscesses, changes in the bones and joints in spinal arthropathy or Charcot's joint disease, and gangræna vasomotoria. Raynaud's disease, a peculiar nervous affection, is attended by gangrene of localized areas of the skin and certain portions of the extremities, which are unquestionably due to nervous disturbance. This disease was long confounded with erysipelas. Its phenomena are those of ischæmia of tissue, followed by erythema, cyanosis and gangrene.

I have noticed in syphilis, in certain instances, a marked tendency to fluctuations of vaso-motor impulse. Thus I have observed a number of cases in which there was a marked tendency to epistaxis, hæmoptysis, hæmorrhage from the bowels and kidneys. In several cases complicated by stricture I have observed a tendency to hæmorrhages from the urethra. Certain diseases of the skin have been described, and quite appropriately, as dermato-neurosis.

Leloir states that certain lesions of the skin are a premonition of threatening neurotic trouble of a serious character. For example, one of his patients suffered with a severe herpes zoster of the right side of the chest for a short time, having been previously healthy. Six months later paraplegia and paralysis of the sphincters occurred as a consequence of syphilitic myelitis. In a second case he observed the existence of a patch of non-parasitic alopecia areata for a short time prior to the development of the cerebral lesion of syphilis. The same lesion in another case apparently heralded the development of cerebro-spinal syphilis and general paralysis. In still another case labial herpes and scleroderma in circumscribed patches occurred from time to time for several years, and were followed by general paralysis.

Duplay records one case in which zoster of the inferior extremity led to the discovery of Pott's disease of the spine. In another case, recorded by the same observer, œdema of the lower limbs, with pigmentation of the skin, led to a diagnosis of spinal meningitis.

Raymond cites a case in which intense herpes of the pharynx preceded a cerebral lesion. Eczema and neuralgia oftentimes precede the development of chorea.

In my essay upon tropho-neurosis in syphilis I called especial attention to the association of alopecia areata and herpes zoster to neurotic disturbances. My friend, Prof. Ohmann-Dumesnil, of St. Louis, has reported several cases of alopecia due to traumatism.

My attention was first called to the possible dependence of syphilitic lesions upon tropho-neuroses by a series of cases of necroses of the maxilla, alveolar processes, palate and bones of the nose, occurring in cases of tertiary syphilis. In studying these cases I was led to pursue the line of thought a little further, and I found that evidences of the dependence of syphilitic phenomena upon organic or functional disturbances of the sympathetic system are quite positively manifested here and there along the whole line of morbid phenomena developed in the course of the disease. There is not a lesion of syphilis which cannot, it seems to me, be explained upon this theory. Even the affinity of syphilis for the lymphatic glands appears to be analogous to those phenomena which occur in Hodgkin's disease and leucocythæmia—diseases which are inexplicable save upon the neurotic theory. In the late or sequelar syphilides there is a special tendency to disturbances of a tropho-neurotic character. It would appear that syphilitic infection not only has a peculiar affinity for the sympathetic nervous system, but that this affinity is particularly marked in the upper or cervical portion of the sympathetic. All through the disease the proportion of lesions about the head, face and mouth is relatively much larger, even under the best treatment, than in other portions of the body. The parts supplied by the fifth cranial nerve appear to be particularly susceptible. There are few cases, indeed, no matter how thoroughly they may be treated, that are not affected, at one time or another, with lesions of the lips, inner surface of the cheeks, tongue, throat and scalp. Cases are frequently met with in which the initiatory and active periods of the disease have been passed through without serious trouble, when suddenly and without warning serious destruction of the nasal, palatal or maxillary bones occur.

I have long been impressed by the peculiar course of some of the lesions of late syphilis, particularly those affecting the head, face and oral cavity. It has seemed to me that the destructive effects exerted by the morbid process upon the bony tissue is greatly disproportionate to the objective and subjective phenomena which precede the actual destruction. For example, I think that upon reflection it will be found that the objective morbid phenomena which precede the necrosis *en masse* of various parts of the palate, superior maxillary and nasal bones are comparatively slight, when we take into consideration the fact that the affected bone is entirely destroyed. Indeed, it often seems that the first objective phenomenon perceptible in cases of necrosis of the parts mentioned is incidental, not to destruction of the bone *per se*, but to an attempt on the part of nature to rid the tissues of offending foreign material. Thus, I have observed cases in which the greater portion of the palate was entirely destroyed, yet very little manifestation of trouble was apparent until suppuration occurred, with a small point of ulceration of the soft parts covering the bone, and the discharge of a small quantity of pus—a quantity, by the way, so small as to be entirely disproportionate to the extent of the morbid process. On passing a probe into the small sinus thus formed, one who is not thoroughly conversant with the peculiarities of such conditions will quite likely be surprised to find that a large portion of the bone is dead, and perhaps loose in the tissues. It will be found, upon observation of processes other than syphilitic, which produce necrosis or caries of bone, that there exists, prior to the death of the osseous structure, quite pronounced objective phenomena in the way of pain, swelling and deformity of the part, these symptoms indicating the existence of proliferated inflammatory material which subsequently produces, by simple pressure, destruction of the vitality of the bone. Those morbid phenomena in syphilis which involve bone or periosteum in the early part of the course of the disease are accompanied by relatively more prominent objective phenomena than those late lesions which are now under consideration; yet they are rarely followed by caries or necrosis. These processes, it seems, are reserved for the late secondary or sequelar period of the disease. Thus it will be seen that, although the local process is apparently more severe in the early cases, destruction of the vitality of the bone is not so likely to occur. There is a marked difference between the modes and diffuse subperiosteal swellings of early syphilis, and the condition of the bone and periosteum which precedes necrosis *en masse*, or, for that matter, caries in the late stage of the disease. In addition to the disproportion between the degree of destruction of bone and the objective phenomena preceding such destruction, another point worthy of comment is the fact that syphilis possesses the power of dissecting out definite portions of osseous tissue, apparently by cutting off their nutritive supply in a manner as cleanly as it could be done by the knife. Thus, I have specimens in my possession of the intermaxillary bone, portions of the alveolar process of the maxilla, the palatal and nasal processes of the superior maxillary, the molar and ossæ nasi, which became necrosed, loosened, and were removed from cases of late syphilis. These fragments of bone present as natural a conformation in many instances as in their healthy condition.

As far as I have been able to observe, there seems to be a special predilection in cases of late syphilis for those parts supplied by the fifth nerve, indicating that the portion of the sympathetic system which presides over these parts is particularly sensitive to the syphilitic impression.

I have found in some instances the tendency to unilateral destruction of osseous tissue particularly marked. Thus, the palatal process of the superior maxilla upon one side, or superior alveolus upon one side, may necrose and give way without the corresponding portion of bone becoming affected. Indeed, it seems that in most instances in which necrosis attacks the bones of the face it is impossible to check the process until the line of demarkation represented by the anatomical outline of the affected bone has been reached. The peculiar manner in which one-half of a structure may be dissected away by the sequelar lesions of syphilis is exemplified by a case of syphiloma of the tongue which recently came under my observation, in which the sloughing of the organ was limited by the raphe. This case subsequently went on to malignant transformation. I removed the tongue by the galvanocautery, the disease recurred, and the patient died of hæmorrhage several months later.

I have had several cases recently in which that portion of the superior maxilla corresponding to the intermaxillary bone was dissected out by the syphilitic process, with the resultant loss of the incisor teeth, the remainder of the jaw remaining intact. There appears to be a peculiar predilection of late syphilis for this portion of the jaw. I have seen several cases in which caries occurred in this situation, with a consequent loss of one or more perfectly healthy teeth. These cases have appeared to me to be so characteristic that I have come to regard the loss of the incisor teeth without any apparent cause as almost positive evidence of syphilis.

An interesting case illustrating the unilateral limitation of some late lesions of syphilis came under my observation recently. This was a gentleman who had an obscure history of syphilis, dating some years back. Several weeks before coming under my observation ulceration began at the roots of the molar teeth upon one side and extended outward upon the palate. When I first saw the case the ulceration had extended outwards upon the hard palate for about three-quarters of an inch, and forward to the median line, where it abruptly stopped. The appearance of the ulceration was quite typical. There was no disease of the teeth or jaws to account for it. Healing was quite rapid under appropriate antisyphilitic treatment.

Another interesting case of a somewhat similar character is that of a gentleman who had syphilis seven or eight years ago. For the last three or four years he has had occasional symptoms of the disease. A few months since ulceration occurred about the roots of the upper incisor teeth, and was attended with slight caries of the intermaxillary bone. The process was checked by appropriate treatment, the teeth, which were loosened, finally becoming perfectly solid. About six or eight weeks after the ulceration was healed the patient consulted me for supra- and infraorbital neuralgia and hemicrania. It yielded readily to iodine of potassium in large doses. Within a few days the patient has again consulted me for paræsthesia of the right side of the face, which he noticed for the first time while being shaved. His face have been excessively tender previously, he very speedily noticed a lack of sensibility under the razor. Associated with this paræsthesia there is obscure pain, which he locates back of the eyeball. The *ensemble* of symptoms in this case points to central disturbance, and evidence a manifest predilection of the sequelar lesion for the fifth cranial nerve.

The association of obstinate tubercular syphilides with nervous syphilis is well known. It seems that the danger of involvement of the central nervous system is directly proportionate to that of severe syphilides.

In considering the tropho-neurotic character of the late lesions of syphilis, I do not ignore the fact that syphilis may act directly upon the nervous system in several different ways:

1. By the direct effect of syphilitic deposit upon the nerve cells or fibres, or membranes of the brain and spinal cord.

2. By changes in the membranous envelopes of the brain and spinal cord.

3. By deposits in and about the blood vessels, which induce circulatory disturbances.

4. By a proliferation and condensation of connective tissue, which remains after the syphilitic material *per se* has been removed.

There is probably a difference in the late and early forms of syphilitic lesion in the manner in which the tropho-neurotic element is brought about. Thus, it may be due, in the first instance, to a direct impression of the syphilitic poison upon the sympathetic nervous system; secondly, upon direct pressure upon the nervous structures; thirdly, upon a disturbance of function and nutrition of the nervous structures incidental to interference with blood supply.

It is probable that mercury acts upon the nervous system in very much the same manner as does syphilis. It is very difficult to differentiate late syphilitic lesions of the bones and of the mucous membranes from those directly due to the action of mercury. That mercury exerts a powerful effect upon the sympathetic nervous system is, it seems to me, shown conclusively by the phenomena of ptyalism, which cannot be accounted for solely upon the theory of the production of irritation. The well known power of mercury over the secretions is probably due to its influence upon the sympathetic ganglia. When the injurious action of mercury is superadded to syphilis, there is a more marked tendency to tropho-neurotic phenomena than in well treated cases of the disease. Indeed, the excessive use of mercury often seems to determine the predilection of late syphilis for the bones of the head and face. It is quite as capable of producing necrosis or destructive ulceration of these parts as is syphilis *per se*.

Positive demonstration of the dependence of the phenomena which I have outlined upon nervous disturbance is of course difficult, but the inferences which I have drawn appear to me to be logical.

In considering the question of trophic disturbances in their relation to destructive syphilitic processes, it is well to remember the familiar physiological experiment of section of the sympathetic in the neck of the rabbit. The same experiment is also interesting as bearing upon the faucial congestion of early syphilis. The reddening of the ear of the rabbit, the inflammation and sloughing of the cornea incidental to section of the sympathetic, are certainly suggestive. To carry the analogy of this physiological demonstration a little further, I would call attention to the serious corneal trouble which sometimes results from herpes frontalis seu orbicularis.

The tropho-neurotic influence of syphilis appears to be chiefly manifested in the peripheral structures of the body. Thus, in late syphilis we have a tendency to brittleness and other morbid changes of the finger and toe nails. There is falling of the hair, due to intrinsic perversion of vitality of the hair follicle, and differing from the alopecia areata of the early stages of the disease. The most important evidences of the tropho-neurotic influence of syphilis is the malnutrition of the teeth observed in syphilitic children. In my opinion syphilis may impress several generations of individuals with a tendency to tropho-neurotic changes of the glands, teeth, nails, etc., long after syphilis *per se* has been eradicated. It is my opinion that scrofula is frequently the result of this neurotic tendency, *i. e.*, tropho-neurotic disturbance.

In a paper read before this Section at the meeting of the American Medical Association, June 12, 1886, I directed attention to the close similarity which exists between so-called canker of the oral cavity and certain syphilitic lesions. This resemblance I believe to be due to the fact that both are the result of tropho-neurotic disturbances; in the one case produced by syphilis, or syphilis and mercury combined, and in the other to general perversion of nutrition, or, more frequently, disturbances of the digestive apparatus.[1]

Dr. Hadden[2] reports four cases which I believe to be due to tropho-neurotic disturbance. These cases were absolutely resistant to treatment, and consisted of a sensation of intense unbearable burning of the tongue and often the lips and roof of the mouth. In two of these cases there were certain objective symptoms. In one, a woman of 35, there was a small epulis; in another, a woman of 75, who was emotional and nervous, and had for many years suffered from nettle rash, the gums finally became involved and the teeth turned black and decayed.

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[1] In a paper read before the North Texas Medical Society I called attention to the relation of herpes progenitalis upon the disturbed ennervation incidental to syphilis. (Philadelphia Medical News, Feb. 8, 1890.)

[2] London Lancet, Jan. 25, 1890.

REPORT OF A CASE OF PARTIAL LARYNGECTOMY FOR CARCINOMA OF THE LARYNX.

Read in the Section of Laryngology and Otology at the Forty-first Annual Meeting of the American Medical Association at Nashville, Tenn., May, 1890.

BY MAX THORNER, M.D.,
OF CINCINNATI, O.

Since a few years the subject of pathology and and therapeutics of cancer of the larynx has engaged the profession in an unusual degree. The object of the discussion was, above all, to ascertain the best method of treating cases of this kind, to find certain and distinct indications by which we might be guided under all circumstances. This object, however, has not yet been attained. The views of various authors are still so different from each other that in every single case of carcinoma of the larynx the question, what to do with it, will have to be answered according to the individual experience and views ot the surgeon attending the case. The principal question that arises is if the chance of prolonging the life of the patient is greater by not operating for the local trouble at all, except performing tracheotomy whenever needed, or by intralaryngeal procedure, or by performing extirpation of the larynx, be it a complete or a partial one; and in order to answer this question definitely it is not only desirable, but absolutely necessary, that *all* cases of this class should be recorded. Thus we will obtain, finally, such an enormous amount of statistical material as to enable us to draw from it definite and generally accepted conclusions.

Mrs. F. G., æt. 51, married for four years, no children, consulted me in the beginning of February on account of loss of voice. Had been in fair health all her life, with the exception of fainting spells, to which she had been subject for many years, more so in the last two years, after she had had a slight attack of sunstroke. A sister had died from heart disease, and a brother is at present suffering from it. She had passed the climacterium without any unusual trouble. About a year ago she had been afflicted with hoarseness, which would, however, disappear at times, and then reappear again. Finally the hoarseness remained permanent and increased gradually until the voice became entirely aphonic, which had been the case for several months. There had been of late, and this only at times, a slight pain in the left side of the larynx, and an annoying, hacking cough was sometimes present.

Stat. præs.—Physical condition fair. Patient is a slightly built woman with very little adipose tissue. Physical examination shows no signs of pulmonary affection, and especially no valvular disease of the heart. Pulse 84, regular, rather weak. There is complete aphonia and slight inspiratory dyspnœa. The laryngeal region is free from visible or palpable signs of swelling, and there is no perceptible tenderness to the touch. The pharynx is normal. The larynx shows generally some hyperæmia. The right vocal cord appears to be normal, the left one is not to be seen. The latter is covered by a tumefaction filling the place of the left ventricular band. Instead of the latter there is an ovoid swelling the size of a small cherry, filling completely the left ventricle and the ventricular band. This swelling is covered by normal mucous membrane, and its outlines are not lost in a continuity with the surrounding tissues, but are sharply defined from them, causing the tumor to protrude into the larynx, as if pushing the ventricular band before it. The surface of the tumor is somewhat uneven, the color of the mucosa slightly deeper than that of the surrounding tissues, except the mucosa covering the left arytenoid cartilage, which is also slightly deeper in color. The left arytenoid cartilage is somewhat larger than that of the other side. This tumor is moved, during phonation, towards the middle line, but there is no complete approximation. Probing the tumor conveys the sense of solidity. The lymphatic glands around the larynx and the trachea are not enlarged.

Although there was no trace of a specific infection, patient was put under pot. iodid. for six weeks, without the least change in the size or appearance of the tumor. In fact, the dyspnœa was at times worse than before. The tumor corresponded so closely to the description of that form of carcinoma so admirably set forth by Prof. B. Fränkel in his paper on "Carcinoma of the Larynx" (*Deutsche Med. Woch.*, 1889), which has its origin in the ventricle, and which he calls *carcinoma ventriculare*, that his description is almost a pen-picture of the case under consideration.

There could be no doubt as regards the diagnosis. It was, therefore, after a consultation with Prof. J. Ransohoff, deemed the best to advise an operation, and under the circumstances, the affection apparently being limited to the left side of the larynx, a partial laryngectomy appeared to be indicated.

Operation April 15, 9 A.M. Present: Prof. Ransohoff, Drs. J. L. Krouse, J. E. Sommerfield, J. A. Thompson and M. Morris. Chloroform anæsthesia. An incision was made in the median line from the lower margin of the thyroid cartilage to the jugulum. Thereupon tracheotomy was performed below the isthmus of the thyroid gland. No hæmorrhage. An ordinary tracheotomy tube of the largest size (Hahn's sponge canula not being obtainable) was inserted and the anæsthesia continued through the same. The median incision was then continued upward to the hyoid bone and the muscles were lifted with a raspatory subperichondrially, as described by Lennox Browne, from the left wing of the thyroid cartilage, together with the perichondrium. In this way all hæmorrhage was avoided. After this the larynx was split open from below upwards. There followed some hæmorrhage, and an attempt was made to tampon the trachea from above with aseptic cotton tampons. As this was not satisfactory, a rolled pillow was put under the shoulders of the patient and the operation completed with the head hanging over the edge of the table. This proved to be sufficient to prevent blood from entering the windpipe. The hæmorrhage, coming mostly from the crico-thyroid artery, was readily controlled. It was then seen that the tumor filled the whole left ventricle, involving part of the left vocal cord. The left arytenoid cartilage was somewhat enlarged; the right side of the larynx was not affected. The swelling in the left side of the larynx did not extend upward to the upper margin of the thyroid cartilage and downward below the vocal cord. The left wing of the thyroid cartilage was then detached from those muscular attachments that had not been previously severed, by keeping the edge of the knife or the raspatory in close contact with it. This separation could be carried to the median line in the back, dividing the arytenoid and crico-arytenoid muscles from the posterior surface of the left arytenoid cartilage, thereby leaving all the muscles in front of the neck intact by simply separating them from the field of operation by retractors. Previous to this the crico-thyroid joint had been disarticulated, as it had been decided not to remove the cricoid cartilage. The thyro-hyoid membrane was now dissected closely to the upper margin of the left wing of the thyroid cartilage, and the left superior horn of the same was cut through at its base and allowed to remain, after which it was possible to lift the whole left side of the larynx with the tumor from its attachments. Then the mucosa covering the left arytenoid was divided in the median line closely to the cartilage, and the latter was then separately removed.

The hæmorrhage during these procedures, following the splitting of the larynx, had been trifling. The trachea above the canula was closely filled with iodoform gauze and a small-sized stomach tube introduced into the stomach from the wound. The latter was filled with iodoform gauze. Duration of operation, 1½ hours.

Patient rallied one hour after the operation. The temperature was then 99°, respiration 20, and pulse 84. During the following days the temperature ranged from 99.5° to 101°, respiration from 24 to 28, and pulse from 84 to 112. Nourishment was amply introduced through the stomach tube in the form of milk and whisky. The dressing was changed twice daily; the iodoform gauze plug in the trachea, which fitted closely, was renewed once a day. There was always an abundance of mucus and saliva in the wound, but none entered the windpipe. The discharge from the tracheal tube was only during the first twelve hours somewhat tinged with blood; after that time there was a free but colorless discharge of mucus, which at no time had an offensive odor. There was never any pain in the chest, or dulness on percussion.

April 17, at noon, forty-eight hours after the operation, temperature 102, respiration 32, and pulse 112. Patient complained of pain on both sides of the neck above the wound. It was found that the upper end of the stomach tube had buried itself slightly into the tissues, where subsequently an emphysema on both sides of the throat had developed. The wound itself was looking healthy and was decreasing in size. The stomach tube was at once removed. In the evening of that day the temperature was 100, respiration 28, and pulse 96. The emphysema was gone and the patient complained no more of pain. For the purpose of feeding a stomach tube was introduced through the mouth.

Patient gained more and more strength, and was very cheerful. Asked to sit up on the third day, which was, however, not permitted. The wound was getting smaller and had a very healthy appearance.

April 19, on the morning of the fifth day, patient tried for the first time to swallow some solid food, and succeeded with but little pain and without any food entering the larynx. She repeated this at noon, and expressed her gratification at the result. In the afternoon, at 2 o'clock, her temperature suddenly rose, and was at 3 P. M. 104, respiration 36, and pulse 120. A very thorough examination of the wound showed the same to be in good condition. There was nowhere a retention of pus, the wound canal of the tracheotomy tube had a healthy appearance, and no trouble in the mediastinum could be ascertained. The discharge was pure mucus without any odor. No pain in the chest, no dulness on percussion. Giving her solid food was discontinued.

Five P. M., temperature 103, respiration 34, and pulse 120. From this time patient began to sink rapidly. She became restless and her temperature subnormal. Action of the heart became irregular and weak, respiration more and more labored. Stimulation very soon lost its effects. The extremities became cool, the pulse could often not be counted. Patient died at 11 P. M. with the symptoms of heart failure.

An autopsy was not permitted. Microscopic examination showed the removed tumor to be a typical carcinoma, developing from the ventricle. Although it cannot be denied that the fatal issue in this case was precipitated by the operation, the direct cause was, in my opinion, heart-failure on account of weak heart. The local condition of the larynx was certainly a favorable one for partial laryngectomy, and I would, under similar circumstances, not hesitate to pursue the same course.

SUGGESTIONS FOR THE RECONSIDERATION OF CRIMINAL JURISPRUDENCE AS AFFECTING INEBRIETY.

Read in the Section of Medical Jurisprudence at the Forty-first Annual Meeting of the American Medical Association, held in Nashville, Tenn., May, 1890.

BY NORMAN KERR, M.D., F.L.S.,

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During the past twelve months I have noted two sentences (these are but a type of many others), which seem to me to have been as devoid of justice as of mercy. In France a soldier was condemned to die for, while in a state of intoxication, having struck his superior officer. In England, a man was sentenced to death for, while intoxicated, killing his mother-in-law.

When sober, and in full possession of their senses, neither of these accused was shown to have exhibited any inclination to insubordination or to violence. The criminal acts were conceived and committed when the doers were, for the time at least, *non compos mentis*, and incapable of forming a criminal intention, yet they were punished as severely as if they had harbored a criminal design. Granted that punishment was indispensable, how can there be a justification of inflicting as severe a penalty on a man who had no intention to offer violence, as on a man who deliberately and aforethought meditates the personal injury or death of his victim.

The exaction of the highest penalty of the law in such cases is a scandal to jurisprudence, undermining the beneficial influence and authority of the law, for the judicial office can be held in proper esteem only when wielded for the upholding of justice. Criminal procedure must fall in popular estimation when involved in the perpetration of injustice.

What is intoxication? Its determination, say from apoplexy certain stages of general paralysis and traumatic neurotic delirium, is often extremely difficult, if not impossible. Even if the sufferer be a teetotaler of the purest water, if he fall unconscious on the highway, either from rupture of a blood-vessel in the brain, from the pain of a fractured leg, from the agony of colic, from exhaustion or from any other cause, some average American or British bystander is sure to pour some alcoholic beverage down the non-alcoholic throat. The jubilee nephalist, as soon as consciousness returns, staggers on regaining his feet, probably mutters disconnectedly and so unintelligibly, that the spectators are of two minds as to whether curses or blessings are intended, their only common belief being that poor Eliphalet Nolt Jones is shockingly drunk, though this is positively the first time he has tasted an intoxicant, and now only against his will.

On the threshold of our enquiry we are confronted with the need for a reconsideration of criminal proceedings.

If a man is to be punished for being "drunk or disorderly," or for any offence complicated with drunkenness, who is to decide whether he is drunk or sober? One of our London magistrates recently rebuked an inspector of police for calling in a medical practitioner to say whether a prisoner was drunk. The magistrate declared that there was no need to send for a doctor, a policeman was quite competent to settle that question. The publican is supposed by law to know when his customers are drunk.

Now this is often a most difficult problem even for a medical man, experienced in such cases. I have seen gentlemen at a dinner-table apparently sober though drinking freely, but the moment they stepped out into the cool evening air they took a bee line to everywhere, and appeared noisily drunk. I have had patients who had an unimpeachable reputation for sobriety, who never would have lost it had not some sudden call out of doors developed decidedly drunken manifestations. Again and again I have seen even medical advisers mistaken in their diagnosis, a few hours disclosing a serious brain lesion. Similarly, I have seen a fatal termination in a number of cases, where the individual had frequently been drunk before and had awoke to sobriety and vigor. When brought home, the friends had contemptuously said "drunk again," and left the victim to sleep off his drunken fit, he, alas! never waking.

The sub-normal temperature generally met with in intoxication and the alteration of only one pupil, are often valuable signs to go by, but they are not always reliable, as alcoholic symptoms and symptoms not necessarily associated with alcohol may occur cotemporaneously. In a sentence, in doubtful cases, the wiser plan is to wait till the purely alcoholic effects pass away. Otherwise, the supposed drunkenness may turn out to be apoplexy, coma, death, as is frequently recorded in the public press under the heading of "Drunk or Dying?"

Police procedure, therefore, ought to be reconsidered so as to secure the proper care and treatment of supposed drunkards (especially in a high enough temperature to counteract the loss of vital heat occasioned by alcohol), for a period long enough to allow the subsidence of the strictly alcoholic symptoms. Medical attendance should be secured in the presence of symptoms suspicious of danger, and a medical expert should be called when the question of diagnosis arises.

There is a large class of police-court cases which require special reconsideration. I refer particularly to "repeaters," to persons repeatedly before the court for drunkenness and offences connected therewith. To award short terms of confinement, with or without hard labor, is simply to supply the police-court inebriate with free quarters and board in a teetotal club-house, when he has so broken down that he is unable to go on drinking. There you keep him under fairly good sanitary conditions (often much more healthful than his own "diggings"), for a sufficient time to recuperate, and you discharge him in prime condition to resume anew his drunken orgies. Your police-court system is thus a systematic and efficient training school of inebriety. The inebriate is not really punished, but coddled and confirmed in his perilous habits. The persons whom you do punish, and the punishment often falls terribly heavily on them, are the miserable wife and the helpless little children of the drunkard, whom you deprive of whatever maintenance they received from the parent whom you pamper and still further demoralize.

Let us turn now to graver crimes.

To remove any misapprehension, let me once for all disclaim saying anything in extenuation of such persons, if there be such, who resort to alcohol in order to commit crime. If any one when sober and in his right mind deliberately determines on the commission of a criminal offence, and drinks to give him Dutch courage to carry out his illegal design, such an one merits the severity of the law.

But if a man or a woman or a child, having no criminal intention, is "overtaken in liquor," and while thus "overtaken" offends against the majesty of the law, his state of bodily and mental health at the time when the deed was done, ought to be rigidly exploited.

The first point to elucidate should be: Was the person, at the time, in a condition to understand the character and consequences of his actions?

The cause of his condition is another matter to be dealt with hereafter. His actual condition at the time is our initial task. There are degrees and varieties of intoxication. An intoxicated person may kill some one without any murderous intent, with no consciousness of the act, and with no remembrance of the murder on regaining sobriety. In such a case there ought to be no question as to his irresponsibility. Yet men have been executed for an offence which they neither intended, nor were conscious of, nor remembered. In many cases, when made aware of what they had done, the unfortunate culprits were as amazed as they were dismayed and repentant.

The degree of intoxication may not be so profound. The inebriate may be conscious that he is doing wrong, may remember having done it, and yet at the time may have been hurried away by some convulsive and overwhelming morbid impulse, which he was powerless to resist. He was beyond his own control. Of examples of this type there are many among our criminal population, in whom alcoholic or other inebriate excitation has suddenly developed both homicidal and suicidal tendencies. In one instance for which a young man was hung the homicidal impulse was from chloral, in another from Indian hemp, in others from alcohol. There was no such impulse before the inebriate outbreak.

The person may be under influence of liquor though not "drunk" in the common acceptation of the term, when he commits a crime. His brain is affected by alcohol or some similar anæsthetic. He offends against the law, it may be unconsciously with no knowledge or remembrance of the act, it may be consciously but unable to resist an inebriate uncontrollable convulsion. In such cases the accused ought not to be held responsible.

The criminal act may be committed, undesignedly and at rare times unconsciously, when the mental perversion is post-alcoholic. The morbid brain disturbance may persist for a time after the individual has abandoned all intoxicating narcotics.

There are but a few states of cerebral disturbance which ought to carry criminal irresponsibility. Our criminal procedure in all such cases (which really present various phenomena of *disease*) requires radical reconstruction.

Again, in all criminal charges complicated with inebriating agents, the true extent of accountability cannot be ascertained unless the health history of the accused and of his family relatives (including two generations back, if possible) be carefully traced.

If a suspect possesses, from any cause, an acquired or inherited constitution which renders him more susceptible to, and less able to resist, narcomaniacal excitation than the bulk of his fellows, that constitutional weakness ought to be duly considered. Thankfully have I observed the ruling of at least one English judge, (Baron Pollock), to the effect that heredity should be taken into account in fastening criminal responsibility on an inebriate, the last person to realize his own weakness being the weak one himself. Another (Chief Baron Palles) directed a jury that a nurse should not be held accountable, *if* by reason of long continued watching her powers have been so worn out that a smaller quantity of liquor than ever affected her before, rendered her more liable to become beside herself. A third (Lord Young) refused to send to a jury a mother (accused of starving her baby), whom he discharged (with the regret that he could not send her to a Home for Inebriates) on the ground that drinking too much whisky was not a crime, and delirium tremens was a disease. Best of all, Mr. Justice Day has ruled that "whatever the cause of the unconsciousness, a person not knowing the nature and quality of his acts, is irresponsible for them."

The only plea, for the execution of a person found guilty of a capital offence while intoxicated, which seems to me at all plausible, is based on economical considerations. It is cheaper to hang an inebriate than to be at the expense of keeping him for a lengthened period, but I do not apprehend that much stress will be laid by any member of the public-spirited American Medical Association on this plea. From every other point of view a new legal practice based on the recognition of a true narcomania (a mania for narcotism by any narcotic) as characteristic of inebriety, would be an undoubted advantage.

We know little as yet of the actual extent of the nerve and brain structural degradation predisposing or exciting to, or resulting from, inebriate indulgence. But we know enough to inspire us with a desire to learn more, as well as to have revealed clearly and distinctly the existence, in the constitution of not a few drinkers, of perverted abnormal cravings and impulses, of appreciable loss of self-control, of diminished perception, of premature waste and deterioration of brain tissue, of that ill-balanced mental state, constituting a disease which, if not insanity, is closely allied thereto, a physical, mental and moral malady which dulls the senses, dims the intelligence, confuses the judgment, paralyzes the will, incompatible with sanity and righteous responsibility, in which, in the graphic words of your true-hearted, guileless and poetic Jacob Greenleaf Whittier:

> "Tiger passions, which had slept
> In childhood's better day,
> Unknown, unfelt, arise at length
> In all their own demoniac strength."

THE VALUE OF ILLUSTRATION IN THE LECTURE ROOM.

Read in the Section of Dental and Oral Surgery at the Forty first Annual Meeting of the American Medical Association, Nashville, Tenn , May 21, 1890

BY L. D. McINTOSH, M.D., D.D.S.,
OF CHICAGO, ILL.

The object of this short and hastily written paper is to point out to those who are interested in the work of the lecture room, what we believe to be one of the best methods of illustrating the various branches taught.

I think I am safe in making the assertion that teachers in all departments of study see the necessity of illustrations. Abstract teaching alone, either by lectures or recitation, fails to produce as permanent an impression on students as it does with illustrations. For example, we may give a description of a city or some place we are familiar with, to a class of students and afterward ask them to describe the same, we find that no two understand the description as it was given.

If views had accompanied the description of the place, showing the streets, buildings, etc., each student would have formed almost as correct an idea, as though he had visited the place.

We see how attractive and instructive the public lecturer can make his subject, by using views of the scenes he describes. It has become a necessity for him, if he desires to describe his travels, to illustrate them. The public demand this and enforce their demand by their absence, when no illustrations are shown, and on the other hand, their approval by the large audience present, when his descriptions point to life-like scenes.

The following illustrates the value of illustrated lectures, and the permanent impression produced on an audience.

Some twelve years ago I gave a series of popular illustrated lectures in Chicago, in my own parish. One lecture was entitled "Microscopic World." In the course of the lecture a description was given of the structure of a human lung, its capillary net work, conjestion, etc., using a microscopic section projected on a screen, so that it could be plainly seen by all of the audience. Many of the people referred to the illustration afterward saying, although they had studied the subject before, *this was the first time it had been made clear to them.* Only last winter a gentleman who was present at this lecture referred to the illustrations in this way. He said, "I am just recovering from a severe cold which came near resulting in conjestion of the lungs. I imagined I could see the fine net work of blood-vessels, in which the blood had ceased to flow, and I knew the thing to be done was to get it to circulating again. I remembered what you said about counter-irrritation, and the application of heat to bring the blood to the surface of the body, and thus relieve the conjested lung. I produced free perspiration, applied mustard plasters freely, and was relieved in a short time."

This simply shows the impressions produced by the illustrations. We can remember the lasting impression produced on us when we were young by the itinerant scientific lecturer. I think my love for scientific study was awakened by listening to an illustrated lecture on Natural Philosophy, when I was not more than ten years of age. It was not the words or name of the lecturer that I remember, but the experiments which seemed very wonderful to me, and are as vivid to-day as though I saw them but yesterday.

Some ten years ago I attended a medical society in a neighboring State. An evening was devoted to microscopic illustrations, using a projection microscope. The public were invited with the idea to entertain and at the same time show the scientific side of the study of medicine. A large audience was present and all seemed interested. The work of that evening passed from my mind. Some four or five years afterward a physician called upon me; in his conversation he asked if I remembered giving microscopic illustrations and assisting Dr. A., at a certain State medical meeting. He said he was present, though not a physician at that time, and those illustrations seemed *very wonderful to him.* He said until that time he had looked on the profession of medicine with indifference, but what he saw that evening was the first incentive to commence its study. I afterward learned that this man was an ex-Governor.

I am often chagrined and disappointed after carefully writing a description of a scientific instrument and the directions for its use, to find the purchaser has either failed to comprehend them, or they do not give the idea clearly.

A well posted physician not long since, obtained an instrument for electric measurements. After several unsuccessful attempts to use it he wrote me of his failure. He afterwards brought the instrument to me. We placed it in proper position with connection and it worked all right. There was one point in the directions which he did not interpret as it was intended it should be, therefore his failure. But when he saw it connected and used the directions were plain to him.

The use of every scientific instrument and process, to be clearly understood, should be demonstrated and illustrated. Unless illustrations accompany the description the idea is only partially comprehended.

All descriptions in applications for patents must be minutely illustrated in detail, and even then the expert examiners are often obliged to obtain models to aid them.

If illustrations are so necessary to aid experts in comprehending descriptions in a certain special line, how much more does the student need the lectures illustrated, to which he listens.

In nearly all our schools, from the primary to the highest grades, the teachers see the necessity of illustrating their work as much as possible, and are constantly devising apparatus to do this more perfectly.

In the departments of chemistry, physiology, anatomy, materia medica, microscopy, histology and pathology, operative and prosthetic dentistry, in fact all scientific *study, teachers use illustrations.* Yet with all that is being done we believe that this work is in its infancy.

If there was a greater effort to make a subject plain by illustration, the description cut short, given in few words and to the point, the student would retain what he sees and hears.

The scientist and even the office man has caught the spirit of illustration. When they take their vacation a Kodak Camera is their constant companion. By its aid they bring back pictures of the country they have visited to show their friends. Even the clergyman finds that he can interest his hearers by giving an illustrated sermon, and fill the seats that would otherwise be vacant.

I believe there is no way of illustrating as easily, clearly and cheaply, a great part of the lectures in science, medicine, and dentistry as by projection. We have at our command very perfect apparatus for this work. We can show diagrams, photo-micrographs, micro-photographs, microscopic specimens, opaque objects, chemical reactions, crystalization, polarization, etc., to large classes, as easily as to one person.

To make this point clear I will give a few illustrations. Suppose my subject for consideration to-day is the circulation of the blood. Here we present to the class a diagramatic representation of the systemic circulation, and point out its course through the vena cava into the right auricle to the right ventricle, through the pulmonary artery to the lungs, through the capillary net work surrounding the air cells, back through the pulmonary vein to the left auricle, into the left ventricle through the aorta and on through its round of circulation. Let us now project a microscopic section of lung. Here we see the ultimate capillary net work surrounding the air cells, connective tissue, etc.; with other specimens we could show the epithelial lining, in fact follow out all the detail and minutiæ on the screen as perfectly as though we had our specimen on the stage of a microscope, and we have this advantage; we can describe it to all the class as easily as to one member, and can point out any particular structure—which we cannot do when we use the ordinary instrument. We will take another example for illustration. A diagram of a tooth showing the enamel, dentine, etc., and follow with a microscopic specimen. This we can see on the screen almost as plainly as a diagram. With these illustrations the way is paved for intelligent work with the microscope in the laboratory. When a student mounts a tooth section and places it under the microscope, he sees a familiar object. Just what he has seen by the aid of projection and heard described, even to the color and delicate tints of shade. Had the lecturer's illustrations been given on a blackboard, instead of by the aid of actual specimens projected on the screen, he would not have recognized them when he came to use actual specimens under the microscope.

We will refer to another illustration that can be made very instructive and interesting to a class, viz.: the cirulation in the capillary net work of a small fish, or foot of a frog. Last winter I projected by the aid of sunlight the circulation in the foot of a frog before a class. The capillaries were shown from ½ to ⅔ of an inch in diameter, the red blood corpuscles could be plainly seen coursing through them, with now and then a white one, cutting across lots; when the web of the foot was pricked with a needle the vessels conjested around the wound, and the wounded end of one capillary projected into the opening (which appeared about three inches in diameter). The blood corpuscles were ejected in the stream with each impulse of the heart. The circulation became slower and slower until the conjestion was complete; the foot was released, rubbed to establish the circulation, and after a short time placed again under the field of the microscope. The circulation was now seen over the entire field, except the wounded part.

In this short hour we had seen the circulation in the capillaries, the migration of white corpuscles, conjestion, a bleeding capillary (showing that the impulse of the heart extends through these small vessels) and the establishing of the circulation by massage, after it had ceased.

Could any description given have had the vivid impression on those students as the illustration described? We might continue these illustrations by projecting specimens of every tissue of the body, but we think that what has been shown will illustrate our point. As before stated all branches in science, medicine and dentistry can be very fully illustrated in this way.

The anatomist can use photographic transparencies of any part of the body, and gain much in accuracy and size, over the use of charts and drawings, as the objects can be greatly magnified and made plain to a large class.

The chemist can use this method of illustrating to advantage in the lecture room by projecting reactions, crystallization, electrolitic action, etc., which enables the student to begin his labratory work with a clear idea of what he is to do.

The physiologist is dependent on illustrations to make his lectures clear, and is obliged to refer to anatomical charts and microscopic specimens.

The teacher of pathology is equally interested in illustrating his work.

We had a fine illustration of this work a year ago at Newport, when we listened to Dr. Andrews and saw his beautiful photo-micrographs of fissures in sections of teeth. All who were present will remember Dr. Sudduth's illustrated lecture ("The Products of the Epiblast"). At its close a prominent physician was asked what he thought of it. He said the illustrations were the most perfect he had ever seen, in following the embryonic tooth from the first illustration to the last, he said "I could almost see that tooth grow."

This method of projection is not confined to transparent objects. Opaque objects as well, can be magnified and projected on a screen. The principal is not new, but its application to a projecting microscope, we believe is.

Some two years ago a scientist desired me to make for him a projecting microscope, to project objects by the aid of oblique illumination. In constructing the instrument I found with a little modification it could be made so as to project opaque objects. Without taking time to describe it I will give a few illustrations of its use.

We will place a tooth on the stage and by the aid of reflection project a clearly defined image on the screen. In this manner any small opaque object can be magnified and plainly shown to a class. Malformations of teeth and roots, pulp nodules, fissures, etc., can be shown by making transverse and longitudinal sections, or any small instrument or mechanical devise can also be shown in this way.

We believe the teacher of operative dentistry will find in the projecting of opaque objects a new field of illustration.

We also believe this method of illustrating by the aid of projection is in its infancy.

There is no want of apparatus, or light for illumination, but there is no complete list of objects, either photographic or microscopic; each teacher is at work in his own way, and uses such specimens as are within his reach. We have text-books profusely illustrated and systematically arranged, now what is needed is photo diagrams, photo transparences, and typical microscopic slides, so that the text-books and lectures can be fully illustrated on the screen before the class.

Drs. Sudduth, Andrews, Hayes and others, have done much in this direction, each in his line of work. Others are at work in their specialties. We trust the time is not far distant when typical objects properly arranged in sets both photographic and microscopic, can be as easily obtained as text-books on the various scientific subjects.

The teacher will then have his notes before him in his illustrations, he can abridge his lectures, this being accomplished the poor student will not feel that he is being talked to death.

MEDICAL PROGRESS.

TREATMENT OF ANTHRAX.—DR. POLAILLON finds that the best method of treating anthrax is by means of caustic applications, and of these he finds the paste of Canquoin the most manageable and efficacious. The paste consists of chloride of zinc 1 part, wheat flour 2 parts, and water in sufficient quantity to make a firm paste, which should be made up in the form of bacilli and hardened by drying. When the anthrax is in process of suppuration and when the skin has been perforated at several points the bacilli are pushed into the core through these openings. In a few hours the core forms a solid mass separated from the healthy tissues by a zone of cauterized tissue, and in a few days this eschar sloughs off, leaving in its place a granulating surface which rapidly cicatrizes. When the core begins to form and appears only by a whitish punctated appearance on the skin, openings should be made for the introduction of the caustic bacilli by means of the bistoury or the thermo-cautery. These punctures should be more or less numerous in proportion to the size of the anthrax, and should be about 2 centimetres apart. An eschar is thus made throughout the extent of the anthrax; sloughing quickly takes place, and the course of the disease is considerably shortened. At the very beginning of anthrax formation, before there is any suppuration or fever, treatment should be limited to emollient applications until such a time as the core makes its appearance and it is proper to use the bacilli. If, however, there is intense febrile action and the anthrax is large, there should be no hesitation in introducing the bacilli. In all cases the author covers the surface of the anthrax with thick compresses saturated in a solution of carbolic acid, or preferably a sublimate solution of the strength of 1–1,000. He also applies a poultice of linseed meal made with the sublimate solution, thus obtaining both an emollient and an antiseptic action. This treatment has the disadvantage of being painful for two or three hours, but it produces a rapid cessation of the fever and transforms, in the course of a day or two, a grave infectious disease into a simple wound. The author cites the results obtained by this treatment in support of his assertions. In seventy-five cases of anthrax, some of which were enormous, treated by cauterization with the chloride of zinc bacilli, there were seventy-four cures and only one death. The latter was in the case of a man 44 years of age who had an enormous anthrax on the back. He suffered from glycosuria of grave form, and had been treated very irregularly at home for a month. Having been admitted to the hospital, the author hastened to make a crucial incision by galvano-cautery and pierce the anthrax with the caustic bacilli; diffuse inflammation, however, set in, and the man died a week after admission to the hospital. The average length of cure by the above described means has been twenty-one days.—*Jour. de Méd. de Paris.*

HOSPITAL OBSTETRICS.—The Brussels Obstetrical Clinic consists of two departments, in one of which clinics are given, while in the other the midwives are instructed; DR. SAINT MOULIN has been in charge of the latter since 1886. Shortly after he took charge an epidemic of puerperal fever broke out, which in five months proved fatal to six of the 193 patients. The hospital was thereupon closed for 14 days and disinfected. When it was reopened sublimate was introduced as a disinfectant to take the place of carbolic acid, which had formerly been employed; furthermore, precise and thorough disinfection of the parturient patients was introduced, together with similar measures for examiners and operators; avoidance of unnecessary examinations was also insisted upon.

After removal of the placenta the uterus was douched with 2 litres of a ½ per cent. sublimate solution during the first three days, and the vagina 3 times a day with a ¼ per cent. solution of the same. In spite of these measures there were thirty-three cases of fever in the next five months, but none of the patients died, and an improvement in the morbidity also took place. Saint-Moulin attributed the appearance of the epidemic to the extensive construction of canals, in the immediate neighborhood of the hospital, which was coincident with the epidemic.

Among other facts of interest in connection with this report is the treatment of perimetritis and peritonitis by hot applications, leeching and vesication. An interesting case is reported where, after an easy labor in the seventh month, a thrombus of the vulva formed which extended on the second day as far as the anus. The probable cause of this occurrence was arterial atheroma, a condition that was manifested in other parts of the patient's body. In two cases of narrow pelvis where it was desired to induce labor, hot vaginal douches repeated every two hours were employed, complete dilatation being produced by eight applications of this treatment. In a lying-in patient eclamptic attacks appeared on the eleventh day, the urine being free from albumen. In another case of eclampsia psychical disturbances appeared after delivery, but soon disappeared.—*Cent. fur Gyn.*

Cocaine in Surgery.—Reclus, of Paris, after an extensive experience in the use of cocaine, is abundantly satisfied with its action. Local anæsthesia can be produced by it either by pencilling the mucous membranes, or by means of interstitial injections. The superficial application is insufficient to produce as lasting anæsthesia, although it is useful in the operation of dilating the sphincter ani and in washing out joint cavities with strong solutions of carbolic acid. Reclus has performed more than seven hundred operations under cocaine anæsthesia, and has always succeeded in obtaining an anæsthesia lasting from three-quarters of an hour to one hour. By following certain rules inflamed as well as normal tissues can be rendered anæsthetic. The needle should first be thrust into the cutis and a few drops of a 2 per cent. solution injected; gradually thrusting the needle deeper and deeper, the solution is introduced by drops until the entire quantity is exhausted. In this manner the solution is evenly distributed through all the tissues and until complete analgesia is produced. The area thus anæsthetized is about 2 cm. wide, and here the incision must be made. If the incision is to be made with the thermocautery, it must be done by a single stroke, because heat rapidly dissipates the action of cocaine. Reclus has observed no injurious effects from cocaine. In the literature of the subject he found four fatal cases from cocaine poisoning operations, but these were cases in which too large doses were given, viz.: 0.75 grm., 1.20 grm., 1.25 grm., and 1.50 grm. He explains all the ill effects resulting from the use of cocaine by the introduction of the solution into a vein; this accident, however, is easily avoided by proper precaution. The average dose of cocaine is 10–12 ctgrm.

A Simplified Method of Discovering Koch's Bacillus in the Sputum.—The difficulties experienced with the present methods of staining the tubercle bacilli, both in the amount of time required and the proper degree of heat and coloring to be used, have led Dr. E. Dineur to propose a method which in his hands has yielded excellent results. He places a few drops of the sputum upon a watch glass, adds first 2 or 3 drops of a concentrated alcoholic solution of fuchsin, and then by means of a glass rod a drop of carbolic glycerine (25 parts of carbolic acid and 100 parts of glycerine); the mass is then well stirred. The mixture is then exposed for a few minutes to a temperature of 80° to 100° C., the sputum becoming appreciably thickened thereby. By means of a needle a portion as large as a pin's head is placed upon the slide, together with a drop of pure or diluted (1:1) glycerine, and the cover glass is then applied. At the edge of the latter he places a drop of diluted (1:5) sulphuric acid, watching through the microscope the effect produced upon the preparation. "The various morphological substances, the white blood corpuscles, epithelial cells and bacteria gradually grow pale and disappear; the bacillus alone persists a sufficiently long time and appears stained a beautiful red upon a colorless field." In this method, as in the usual ones, the author employs the Abbe condenser.—*Cent. fur Bak. und Parasitenkunde.*

Treatment of Diphtheria by Developing Erysipelas.—Babtschinsky (*Inter. Klinische Rundschau*) describes the case of his son, who was taken with a severe form of diphtheria, and in a few hours his life was despaired of. Shortly after the outbreak of the disease a slight scratch was accidentally made over the nose, and from this point a general erysipelas began. With the development of the erysipelas the diphtheritic symptoms began to disappear, the temperature sank, the delirium subsided, the membrane and throat symptoms cleared up, and convalescence set in. Since 1884 Babtschinsky has often observed similar cases. In the village of Lissanka a ten-year-old boy was taken with a severe form of diphtheria, accompanied by a high temperature and infection of the nose. The attack was severe and gave little hope of recovery. Later, facial erysipelas developed, and with the advent of this complication the diphtheritic symptoms disappeared. A third case occurred in the same village. A two-year-old child was attacked with diphtheria. On the third day, when the disease was at its height, erysipelas appeared upon the foot and gradually extended to the groin. With the advent of this disease the diphtheria disappeared.

The author, from these three cases, concludes that there is an antagonism in the infectious principle in these two diseases. At one time he had three patients, one with facial erysipelas and the other two with diphtheria; of these two one died and the other was inoculated near the submaxillary gland with blood taken from the erysipelatous patch of the first patient. The evening of the same day redness developed at the point of inoculation and extended over the face and brow. With this the diphtheritic symptoms disappeared.

In 1888 fourteen inoculations were made from pure cultures of the erysipelatous cocci upon agar-agar. In twelve cases the development of the disease took place, while in two death was too soon after the inoculations, in one case two and the other five hours. In the other cases the erysipelas developed in four, eight, ten and twelve hours after the inoculation. In the family of a peasant six children were taken with diphtheria; their ages ranged from 2 to 15 years. The disease was of gangrenous form, and was especially well developed in the second child, aged 4, whose throat was covered with membrane, the glands swollen, and the nose filled with a mass of membrane, pus and blood. In five of the children there was distinct improvement in all the symptoms twenty-four hours after the inoculation, and on the fourth day the diphtheritic symptoms had practically disappeared. The oldest child, who, notwithstanding the throat symptoms, had gone to work in the field and was not inoculated, died of gangrenous diphtheria. In the remaining cases the results were substantially the same as those detailed. No medicament of any kind was employed, only a general disinfection of the dwellings.

DIAGNOSTIC SYMPTOMS IN TRAUMATIC NEUROSES.—RUMPF (*Deutsche Med. Wochenschr.*, xvi, 1890) describes a symptom which has not yet been observed, or not sufficiently studied, and which, from its objective character, is valuable. The symptom consists of fibrillary contractions of the quadriceps extensor muscle, after a strong faradic current has been passed through it; when the current ceases, instead of the muscle remaining quiet, these fibrillary contractions succeed each other in rapid succession, like a waving field of grain. This peculiar condition, which is most frequently seen in the quadriceps, the author ventures to call the "traumatic reaction." This condition may also be produced by fatigue and cooling the muscle.

Pressure upon painful points caused an increase in the frequency of the pulse, which was smaller and irregular. This symptom was found in non-traumatic forms of neuralgia.

Quantitative diminution of the galvanic excitability of the nerves was a frequent symptom. Erb's normal electrode was used, and the ulnar and peroneal nerves were most frequently examined. It was especially difficult, in the case of the latter nerve, to get the cathodal tetanus (Ka. S. Fe.), it sometimes requiring 20 milliampères, or it could not be obtained at all, while in health it is induced by from 6 to 8 milliampères.

Value can only be given to sensory changes by reason of their subjective character, when frequently made and by exactly the same methods.

HYPNOTIC SUGGESTION.—This therapeutic procedure seems to be constantly gaining ground in France and Germany, though it has as yet attracted little attention in this country. SCHRENCK-NOTZING (*Internationale Klinische Rundschau*) has recently noted a cure of sexual perversion (*Konträrer Sexualempfindung*) by suggestion. The patient, 28 years of age, never experienced sexual excitement with females, but was only gratified by mutual masturbation with the male sex. From January 22 to May, 1889, he received forty-five treatments by suggestion while in the hypnotic state. The result was a complete change in the abnormal sexual appetite, and a few months later the patient was happily married.

LACTIC ACID IN THE URINE.—HEUSS (*Arch. f. ex. Pathol. u. Pharmakol.*) has recently made some observations on the presence of this substance in normal urine. A large quantity of urine was employed, in one case 41, in another 42, and a third 56 litres respectively. In none was a trace of lactic acid found, these conclusions negativing those of Lehman, Langendorff and Mommsen. Very great interest attaches to the observations of Colasanti and Moscatelli, that lactic acid is found in the urine of persons after prolonged and exhausting muscular exercise; for if it is true that this substance is formed in the tissues in the oxidation of carbo-hydrates, it is possible that a small quantity might escape through the kidneys. Heuss does not consider that the single test made was conclusive evidence of the presence of lactic acid, as the rhombic prisms described by Colasanti and Moscatelli may be obtained from urine which contains no lactic acid by the addition of oxide of zinc.

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SATURDAY, JUNE 21, 1890.

THE PHYSICIAN'S RETURN FOR THE INSANE, FEEBLE-MINDED, DEAF, BLIND AND SICK, FOR THE ELEVENTH CENSUS OF THE UNITED STATES.

The circular issued on the 15th of May, from the Census Office under the authority of the Department of the Interior and over the signature of "JOHN S. BILLINGS, Surgeon U. S. A., In Charge of Vital Statistics and Statistics of Special Classes," has been the subject of considerable comment by the public press, the consensus of opinion among the physicians interviewed all over the country being represented as adverse to the proposed method of obtaining statistics of the physically and mentally afflicted classes of the community. Medical journals have generally abstained from more than casual reference to the matter, since while they are all agreed in believing the information sought to be of the most vital importance to the health statistics of the country, the manner of obtaining it contemplated by the circular, is undoubtedly open to serious objection. The circular states, that "each census enumerator, in making a list of the living population, is expected to give the name, age, sex, color, occupation, and whether the person is insane, feeble-minded or idiotic, blind, deaf, dumb, crippled, maimed, lame, deformed, or whether so affected with acute or chronic disease, or the results of injury as to be unable to pursue his usual business," but admits that for various reasons "the reports as to the kind of sickness affecting persons will be very unsatisfactory as derived from enumerator's returns," to remedy which the request is addressed to every physician in the United States to fill out lists of names "for the persons of your acquaintance or in whose families you practice, giving the names, etc., of those you know to be insane, feeble-minded or idiotic, blind, deaf and dumb, sick, crippled, maimed or deformed," the inferred objections to such reports being met by the assurance in black letter that "all information which you furnish on these schedules will be considered and treated as strictly confidential. No names will be published and only the total figures will be given to the press," but how this was to be accomplished is not clear in view of the statement on the preceding page of the circular, that "You need have no fear of duplication, by returning names, which other physicians may return, because all returns from the same locality will be carefully compared (with the lists furnished by the enumerators), and all duplicate returns put aside." How can anything be "strictly confidential," which is exposed to the critical scrutiny of a multitude of census enumerators, for it will require a multitude to do this work. These employés probably have the usual human failings, and one can imagine what use census enumerator Jones would make of the discovery of the fact that his neighbor Smith's child was suffering from congenital syphilis, nor doubt that census enumerator Brown would whisper to Mrs. Brown that Mrs. Green's baby had gonorrhœal ophthalmia, and that the Black's daughter had a concealed deformity, for the "Special Instructions for filling Schedule" prescribe that the reporter shall, "in column 39 state, if deformed, the nature of the deformity and the part or limb affected; if sick, the nature of the disease; if suffering from the effects of an injury, the nature of the injury," and returns of disease to be of any statistical value whatever must be absolutely correct. It will not do to conceal venereal affections under rheumatic or cutaneous cloaks, or to attribute chronic alcoholism and its sequelæ to dyspepsia. Data of this sort are worse than none at all.

Vital statisticians are all alive to the fact of the insufficiency of mere mortality records as indices of the salubrity of localities or of the sanitary condition of communities. Exact returns of actual disease prevalence are absolutely necessary to this end, and these can only be supplied by physicians, but this must be without requiring the violations of Article I of the Code of Medical Ethics, which enjoins among the "Duties of Physicians to their Patients" that "secrecy and delicacy, when required by peculiar circumstances, should be strictly observed. The obligation of secrecy extends beyond the period of professional services; none of the privacies of personal and domestic life, no infirmity of disposition or flaw of character observed during professional attendance should ever be divulged by the physician except when he is imperatively required to do so. The force and necessity of this obligation are indeed so great that professional men have, under certain circumstances, been protected in their observance of secrecy by courts of justice." It is to the credit of the profession, that this obligation has been held inviolate since the days of Hippocrates, so that it can hardly be expected now that any considerable number can look with favor upon the invitation on page 4 of the blank to communicate the names, residences, age, sex, color of all persons who are so sick on June 1, 1890, as to be unable to attend to ordinary duties, with the "disease or injury," and the "names of householder, of whose family sick person is a member," even in a strictly confidential manner to a lot of unprofessional and wholly irresponsible census enumerators.

It would be a most desirable sanitary lesson could the myriads of victims of alcoholic intemperance and the greater myriad of those of venereal contamination be exhibited in exact numbers, but how many physicians are there, who would deliberately place on paper the name, sex, color, age, place of residence (street and number), of all the persons of their acquaintance, or in whose families they practice whom they know to be congenitally afflicted, maimed or deformed, or to be sick, crippled or otherwise physically unfortunate? It is very certain that the census of 1890 will not contain this information.

A Swedish Leper Sent Home.—The Massachusetts State Board of Lunacy and Charities has formally ordered the return to Europe of a leprous Swedish woman, who arrived in Boston on April 28.

THE MUTUAL RELATIONS OF GENERAL AND PROFESSIONAL EDUCATION.

Are they as well adjusted as they might be? Is the average time required for our youth to pass the primary, the grammar or preparatory school and the college of liberal arts, and receive the degree of B.A., so great that the addition of three or four years required for acquiring a profession makes it unreasonably late before they can commence earning for themselves? The affirmative of this last question has been maintained by many, and during the last few years it has received the serious attention of some of our most eminent educators. Thus, Dr. Wm. Pepper, Provost of the University of Pennsylvania, in his address before the College Association of the Middle States and of Maryland, in November, 1889, says: "As our society is at present constituted, it is essential for the vast majority of young men to get at profitable work by the time they are twenty-three or twenty-four years of age. It appears clear that the work of the college of arts must for the most part be done, if done at all, before the age of twenty-one years," that from two to four years may be left available for professional study. Similar views have been expressed by those connected with both Harvard and Columbia colleges, and it is claimed that the average age of the graduates from both the colleges of liberal arts and those of medicine, law and theology in this country is considerably greater than the age indicated by Dr. Pepper as most desirable. In regard to the causes of this evil, the address of Dr. Pepper says: "Doubtless there are many reasons which go to explain this anomalous state of things, but among them it counts for a great deal that the progressive advances in the requirements for admission to college have caused a corresponding increase in the average age at matriculation." It further says: "We are not educating in our colleges, despite the great increase in their number and wealth and advantages, and the increased ease with which free tuition can be secured, any larger, if indeed as large, a proportion of our young men as we did ten years ago."

Three methods have been suggested for remedying the evils complained of, namely: such a reorganization of the curriculum of the preparatory schools as will enable the average student to enter college at the age of 16 or 17; or such improved modes of preparation that he may be able to reach the present standard of qualification for the degree of B.A. in three years after entering college instead of four; or such readjustment of the studies of the senior year in college that it may count as the first year of professional study.

The adoption of the second method for reducing the course in college from four to three years, is said to be under favorable consideration by the authorities of Harvard, while the third method is regarded with more favor by those of Columbia. But while some of our most eminent educators and the authorities of our oldest colleges and universities are thus devising ways and means for enabling a larger proportion of young men to graduate from colleges of liberal arts in time to acquire a professional education before they exceed the age of 23 or 24 years, many in the medical profession and some of the State Boards of Medical Examiners are earnestly advocating an extension of the period of medical studies from three years as at present to four, which, if adopted, would fairly neutralize the saving in time proposed by the general educators. Before adopting any of these measures the whole subject of education, from the primary or public school through the universities, including the professional schools, should be carefully reviewed in direct connection with the conditions and wants of modern society, more especially as it exists in this country.

Such a review would probably show that it is not so much the high standard of requirements for entering college, nor the length of the college course for reaching the degree of Bachelor of Arts, that prevents a larger proportion of young men from graduating, as it is the nature of the chief studies embraced and the paucity of other studies of more practical interest and value, both to the individual and to the State.

The subject is of very great importance, especially in its relations to the medical profession, and its discussion will be resumed next week.

TREATMENT OF POST-PARTUM HÆMORRHAGE.

PROF. OTTO KUSTNER has recently added an interesting and complete study of this subject to the literature of obstetrics (*Deutsche Med. Wochenschr.*, 1, 1890). He divides hæmorrhages into two classes: first, those caused by rupture of the genital tract; second, those from relaxation of the uterus. Among the remedies recommended for this latter condition are ergot stimulation by heat, and massage of the uterus. If these do not succeed, the iodoform gauze tamponade of the uterus is recommended. This last method, in his judgment, not only excites uterine contraction, but also exerts direct pressure upon the bleeding part. In cases where the source of the blood can not be at once made out the entire genital tract should be tamponed.

We may well ask, in the light of this communication, what, if anything, has been added to the treatment of post-partum hæmorrhage? With the single exception of *tamponement*, after the method of DUHRSSEN, there is scarcely anything that may not be found in any elementary work on obstetrics. Conspicuous by its absence is the quickest, most certain and efficient means of securing uterine contraction; we refer to the faradic current.

In these days, when the antiseptic craze in midwifery is at its height, and the medical journals are filled with articles that will almost convict a physician of malpractice who is so unfortunate as to have a death occur from child-bed fever, we may ask our obstetricians why post-partum hæmorrhage from inertia of the uterus is ever allowed to take place, when a means is at hand that will contract the uterus in a dead body. We trust that we may not be considered impertinent if we doubt the necessity of stuffing the uterus with iodoform gauze, when uncertain of our diagnosis; if a few rigorous contractions of the uterus would at once settle the question whether the hæmorrhage was due to inertia or rupture.

It may be argued that an electric battery is a complicated piece of apparatus, liable to get out of order, and too bulky for convenient transportation. All these objections have been met by the ingenuity of our manufacturers, who have devised instruments of surprisingly small compass, from which currents of great intensity may be obtained. These batteries are free from corrosive liquids, their action is certain, and they may be charged and put in working order in a few seconds. Every obstetric bag should be supplied with one of these pocket batteries, for with it severe hæmorrhage from uterine inertia is a practical impossibility.

EDITORIAL NOTES.

THE attendance at the forthcoming International Congress at Berlin, this summer, is estimated to exceed 5,000, and special arrangements will be made in consequence.

THE ELECTRICAL EXECUTION LAW.—The law in New York State substituting electricity for hanging as the means of execution, has at last been passed upon by the Court of Appeals, and considered to be constitutional, after a struggle lasting nearly a year. The court virtually declares that killing by electricity is more humane than that by hanging, and this declaration is based upon strong and repeated testimony that the application of electricity in the manner contemplated by the statute must result in instantaneous and, therefore, painless death.

A SANITARY ORGANIZATION OF WOMEN.—The women of Brooklyn have united to form a Ladies' Health Protective Association, similar to the one which has for years been so useful in New York City. The lines of its work will be in the direction of such nuisances as offensive pursuits, uncared-for tenement houses, and filthy streets. The wives of physicians form a considerable proportion of the organization.

MEDICAL FACULTY OF BUENOS AYRES.—The number of students in the medical faculty of the University of Buenos Ayres during 1889 was 430, being an increase of 8 as compared with the preceding year. Of these, 66 were foreigners and 46 were women. Of the latter, one went through the ordinary curriculum of a fourth year's student, and the others attended the obstetric classes. Between March 1, 1889, and the corresponding date in 1890, forty-three degrees of Doctor of Medicine were conferred. The faculty has asked the Government for a grant of 60,000 pesos (about $60,000) for the erection of new buildings.

HYPNOTISM BY TELEGRAM.—Dr. Milne Bramwell, of Goole, Yorkshire, is reported in *The Lancet*, April 5, to have tested the anæsthetic uses of "suggestion" in a considerable number of cases. He has recently, March 28, given a demonstration of the *modus operandi* of inducing anæsthetic sleep before a large representation, sixty in number, of the medical fraternity of Leeds. Among those present were Mr. Pridgin Teale and Dr. Braithwaite. With one exception the patients who were thus experimented with and upon whom operations, minor in character, were performed, all reported that there was no consciousness of pain, and in some cases they reported that there was no soreness in the parts afterwards, or, at least, for some little time after the operation. Dr. Bramwell showed that in some cases where hypnotism had been formerly practiced by him, the influence could be reinduced, in his absence, by another person by the reading of a letter from him to the hypnotic subject; this subject was thus put to sleep as a means of relief from neuralgic pain. Dr. Bramwell went further and tried the effect of a telegram upon a person formerly hypnotized, and that also succeeded in like manner and for a like object. One of the patients was exhibited as having been cured of alcoholic addiction by "suggestion," and in the presence of the invited company refused to swallow a particular glass of water which had been made to appear to him, while hypnotized, to be a drink containing alcohol.

IN MEMORY OF DR. BYFORD.—The one hundred and sixth meeting of the Chicago Gynecological Society was held on the 13th inst. at the Grand Pacific, its proceedings being entirely devoted to the memory of the late Dr. William H. Byford, one of the founders of the Society, and its first deceased Fellow. An eloquent tribute was pronounced by Dr. H. P. Merriman. Other papers on the life and services of Dr. Byford were read by Dr. N. S. Davis, Dr. Hosmer A. Johnson, Dr. Nelson, Dr. Fitch, Dr. Norman Bridge, Dr. Waxham, and Dr. Philip Adolphus.

GERMAN MEDICAL STUDENTS.—According to official statistics, the following were the numbers of medical students attending the various German universities during the winter session 1889-90: Münich heads the list with 1,422, Berlin comes next with 1,373, then come in order Würzburg with 998, Leipzig with 944, Griefswald with 377, Breslau with 358, Strassburg with 353, Bonn with 343, Erlangen with 340, Freiburg with 327, Halle and Heidelberg each with 284, Königsberg with 258, Kiel with 241, Marburg with 239, Tübingen with 232, Jena with 216, Göttingen with 211, Giessen with 158, and Rostock with 145.

HONORARIUM FOR THE MEDICAL STAFF IN CERTAIN ENGLISH INSTITUTIONS.—*The Press* *and Circular* notes the fact that the medical profession of the city of Liverpool are virtually a unit in declaring that the medical attendants at all non-medical charitable institutions should receive "some pecuniary recognition of their services." The medical officer is ordinarily and throughout the whole country the only unpaid official at the philanthropic institutions of the class referred to, which embraces those provided for the blind, the deaf and dumb, the fatherless and orphans, fallen women, the aged, and many others that are sought out by the charities that soothe, and lead, and bless. The action taken by the Liverpool profession does not imply a large salary or even adequate remuneration, but merely "some recognition;" and this, the *Press and Circular* says, is right and just, being simply an admonition to the managers of these noble charities to "be just to your medical officers as well as generous to the inmates" of those various retreats. It is no answer, it says further, to attempt to draw a parallel between them and the hospitals and recognized medical charities, for the reason that the two classes are essentially distinct and dissimilar, and the duties of unpaid staff too often involve a gratuitous attendance on the paid staff, which cannot be justified. "The day has gone by" in England "when medical men are eager to seek and maintain all honorary appointments. The time is not far distant when such appointments must either have some honorarium attached to them, or go a-begging." These views may sound strangely in our ears, but they are so positively expressed as to set men thinking whether some of the many demands made in this latitude for gratuitous medical services may not be an imposition on good nature and long usage. The unrequited services of medicine are generally admitted to exceed in volume and value those of divinity and law combined, but that is no argument for their unquestioning extension to fields that can be defined as non-medical and remote.

A NATIONAL LABORATORY.—A bill is before Congress to establish a National Laboratory. Five hundred and fifty thousand dollars are asked to start the enterprise. The Marine-Hospital Service, and the Secretary of the Board of Agriculture, are to be the controlling agents of the Government in the conduct of this enterprise.

CHOLERA SPREADING IN SOUTHERN SPAIN.—There were nine deaths in Puebla de Rugate last Saturday. Seven fresh cases are reported. Two-thirds of the inhabitants have fled from the town. The first cases appeared a month ago, the victims all being residents of a street which had been opened up for paving. Seven deaths have occurred at Montichelso, a village near Puebla de Rugate, and seven fresh cases are reported there. A later despatch says that the doctors at Puebla de Rugat are greatly overworked, and the authorities have telegraphed to Valencia asking that physicians be sent from that city to aid them. The supply of drugs is running short, and the town officials have also telegraphed for a fresh supply from Valencia. The total number of cases thus far reported is ninety-one. One of the persons who fled from the town for safety has died from the disease at Albaida. Dr. Candela, who is an expert, declares that the disease at Puebla de Rugat is true Asiatic cholera.

The Government announced in the Senate last Monday that it had not been proved that the disease now prevailing at Puebla de Rugat was Asiatic cholera, and there was no cause for alarm. It was further stated that the Board of Health had sent a deputation to Valencia, and had taken sanitary measures to prevent the spread of the disease.

DR. A. B. LYMAN has been elected to fill the newly created Chair of History of Medicine in the University School of Medicine at Baltimore.

IN accordance with resolutions passed by the Brussels Academy of Medicine, the Belgian Government is about to forbid public *séances* of hypnotism. All who, "outside the lawful exercise of the art of healing," hypnotize girls aged less than 18 years or persons in a demented state, will be punished with fines and imprisonment.

BETWEEN Rome and Naples the Red Cross of Italy has been running a hospital train composed of ten carriages—two for the directing *personnel*, one for the registrar and for wounded officers, two for fourteen patients (sick or wounded of each troop), one for medicines and alimentary stores, one for the culinary service, one for the assisting *personnel*, one as an escort carriage, and one as a luggage wagon. Inspected at various points of the line by medical experts, it is reported to have fulfilled its functions admirably.

TOPICS OF THE WEEK.

DR. EMIN PASHA.

Emin Pasha is a man of interest to the medical profession. Belonging to that profession by education, and a keen observer and lover of science, his experiences in Central Africa, and his character, are matters claiming our attention, especially at the present moment.

A collection of his journals and letters up to the time he was shut up in the Soudan, were made and published in Germany, in 1888, by his friends Professor Schweinfurth, Professor Ratzel, Dr. Felkin, and Dr. Hartlaub. The book was translated by Mrs. Felkin, and published in London two years ago.[1] Emin Pasha was then counted almost among the dead, and his work and motives were no longer subjects of inquiry and discussion. The book excited no interest, and was quickly forgotten. Emin Pasha has since been found and relieved, and all Europe rings most justly with the renown of his dauntless rescuer, Stanley. Emin, after showing some hesitation, has resolved to return to the country from which he had been just rescued by such superhuman efforts. What manner of man is this? The book before us tells us something.

Emin Pasha was born at Oppelln, in the Prussian province of Silesia, in 1840. His real name is Eduard Schnitzer. He began to study medicine in 1858 at the Breslau University, and completed his medical education in Berlin, where he graduated in 1864. Being animated by a strong desire to travel he left Berlin immediately after graduating, and went to Turkey, and joined the staff of Hakki Pasha, whom he accompanied on his official journeys through Armenia, Spain, and Arabia. He adopted the name of Emin, which means "the faithful one," so that his Frankish name should not interfere with his identification with the interests of the people he wished to serve.

In 1875 he returned home to visit his family, but suddenly the desire to travel seized him again, and, taking the nearest route to Egypt, he entered the Egyptian service as Dr. Emin Effendi. He was ordered to join the Governor-General of the Soudan at Khartoum, and from there he was sent to act as chief medical officer in the Equatorial Province, of which Gordon Pasha was then Governor. In 1878, after Gordon had been made Governor-General of the whole Soudan, he appointed Emin, of whom he had a very high opinion, to his own former post as governor of the Equatorial Province.

Between Gordon's term of government and Emin's appointment there had been a lapse of time, during which disorder had grown apace. Emin's task was full of difficulty, but, with surprising patience and determination, he became master of the situation, though always alone, unsupported by any other European. He restored order, banished the slave dealers from the province, and released the slaves, and managed the resources of the country so well that he turned a deficit of £32,000 a year into a revenue of £12,000 for the Egyptian Government. His journals are full of accounts of long weary journeys through dismal swamps, in torrents of rain, and in the burning sun to distant stations on official duties.

Medical work was, however, not forgotten, and at Lado, where was the chief hospital of the province, he might be seen early every morning going round its wards, and prescribing for the patients.

Scientific researches into the botany, zoology, and ornithology of the province were prosecuted unceasingly, and collections made, though he never allowed his pleasure in scientific observation to draw him away from his official duties. He held in high estimation the mission of a doctor. "A sick man," he writes, "is no subject, but a feeling and suffering being, whose sensibility is greatly heightened. Be to your patient in the first place friend, then doctor. Our mission is a high and holy one, and the murmured thanks of a poor man are of far higher value than a few guineas, and the knowledge that one has saved a sick child for its mother is a far more beautiful reward than can ever follow a brilliant but risky operation."

The Mahdi insurrection and the subsequent evacuation of the Soudan threw the Equatorial Province into a state of disruption. One by one Emin had to abandon his more northerly stations, and in the last letter in the book, dated April, 1887, he describes how he and his Soudanese troops were holding on at Wadelai and looking for the arrival of the relief expedition promised from England; but even if relieved Emin declares in emphatic words his deliberate intention not to leave his people and the work begun, to which so many years of his life had been devoted.

"If the people of Great Britain think," he says, "that as soon as Stanley or Thomson comes I shall return with them, they greatly err. I have passed twelve years of my life here, and would it be right of me to desert my post as soon as the opportunity for escape presented itself? I shall remain with my people until I see perfectly clearly that both their future and the future of our country is safe. The work Gordon paid for with his blood I will strive to carry on, if not with his energy and genius, still according to his intentions and in his spirit." And he repeats: "I should like here again to mention that if a relief expedition comes to us I will on no account leave my people. We have passed through troublesome times together, and I consider it would be a shameful act on my part were I to desert them."

These words do much to explain Emin Pasha's recent action in returning after his rescue, which has been so much discussed. They are typical of the character of the man. Quietly determined to carry on his work, he will be faithful unto death to the mission he has undertaken. He believes in the Soudanese and in their possible development, and he is anxious to deliver them alike from the slave trader, the Egyptian Government, and commercial explorers He has offered his services now to the German Government, and it will be interesting to watch his future career and to see what he accomplishes.

His friends speak of Emin with reverential affection as a man of surprising devotion and unselfishness, and, though of encyclopædic knowledge in zoology, botany and languages, of extreme modesty and diffidence.

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[1] "Emin Pasha in Central Africa." A Collection of his Letters and Journals. London: Philip and Son. 1888.

He won the confidence of natives chiefly by patience and justice, and by his complete knowledge of, and sympathy with, their modes of thought, customs and prejudices. Despising nobody, least of all the naked negro, and hating none but the ruthless slave trader, Emin Pasha is eminently fitted for the work to which he is devoted, and is, as shown by his letters and journals published by his friend, Dr. Felkin, a man of whom the medical profession may well be proud.—*Brit. Med. Jour.*

PUBLIC EXHIBITIONS OF HYPNOTISM.

Though but lately introduced to public notice, hypnotism has for many years attracted a share of professional attention. A certain interest doubtless attaches to the subject, but this is of a serious rather than an amusing kind, a fact which is not so fully recognized as it should be. It is of some consequence from a scientific standpoint, for example, to determine the psychical forces concerned in producing this condition. It is, further, somewhat important practically to decide how far the artificial slumber may be utilized for therapeutic purposes, though its occasional success when thus employed will probably never compensate for the time and effort often vainly spent in striving after this result. Up to this point, however, we can at least allow that serious honesty of purpose on the part of those concerned affords some show of justification for the peculiar nervous change effected by them. When we come to such novelties of recreation as the hypnotic séance the case is quite different. There is at any time an element of danger involved in a practice which numbs the senses and energies of the nervous system as hypnotism does. The creation of what amounts to cataleptic torpor is itself morbid. It implies, moreover, either a previous abnormal sensitiveness in the nervous centres of the medium acted on, or the employment of an unusual and powerful agent to control those of ordinary stability. Either way the process and its effects are unwholesome, needless and undesirable. Another consideration is that of after-consequences. As regards these, no definite statistics, indeed, are obtainable; but common experience teaches that, the will mastered, and that not once but often, by another, is less potent for its individual work in life than it was before. What right, then, we would ask, has any one to subtract thus much from even a unit of human usefulness? The privilege based on reason, and claimed by the genuine scientific observer, we have already referred to. That of the mere performing conjuror of the entertainment-room neither fashion nor money gain will justify. Such exhibitions as his should be discouraged by all rational persons, and in cases where consent has been actually or virtually forced, should be punishable by law.—*Lancet.*

DEATH OF FRIEDRICH KUCHENMEISTER.

Friedrich Küchenmeister died at Dresden on the 13th ult., aged seventy. In 1852 he proved by experiments that the tapeworm develops out of the cysticercus cellulosus, and that the latter is traceable to the tapeworm's brood. He was one of the first advocates of the official inspection of cattle, meat and meat markets. He investigated the propagation and treatment of cholera and the local frequency of consumption in Saxony, and wrote on these subjects. For some time he edited a periodical of his own, entitled *Periodical of Epidemiology.* He was one of the most zealous advocates of cremation. Two writings of his later years on Luther's last illness and on the date of Luther's world-famed hymn, "Ein fester Burg ist unser Gott," bear interesting testimony to the width of his sympathies. He was a native of Buchheim in Saxony, studied in Leipsic and Prague, practiced at Zittau, and subsequently went in 1850 to Dresden, where he spent the rest of his life.

The *Berliner klinische Wochenschrift* of May 5 gives some interesting particulars about him. Though best known for his researches on tænia mediocanellato and other parasites, he was a practical physician with an unusual range of scientific interest. He was one of the first of his countrymen to understand the importance of ovariotomy, and the first operation of that kind performed in Germany was done at Dresden at his instigation by an assistant of Sir Spencer Wells. To Küchenmeister is due the introduction of the treatment of diphtheria by limewater, which has been generally adopted throughout Germany. He also displayed considerable ingenuity in inventing and modifying surgical instruments; perhaps the best known of his titles to fame in this line is the apparatus for plugging the nostrils in epistaxis, known as the *Rhineurynter*—a name which must have cost almost as much trouble to invent as the thing it was meant to designate. During the last fifteen years of his life Küchenmeister came much before the German public as an ardent apostle of cremation, and in accordance with his wish, his own body was cremated at Gotha.—*Brit. Med. Jour.*

LEPROSY EXCLUDED AT THE BOSTON QUARANTINE.

The quarantine authorities at Boston Harbor have intercepted the importation of a case of leprosy in the person of a woman from Sweden. After the true nature of the disease had been clearly made out the officials not only refused a permit to land, but required the Cunard Company to return the leper to her own country. This was done on May 10. It has now been learned that the diagnosis of leprosy was confirmed by the medical officials at Liverpool upon the arrival of the outcast at that port.—*N. Y. Medical Journal.*

PROFESSOR VIRCHOW.

Professor Virchow lately paid a visit to his friend Schliemann at Hissarlik, to see his new excavations there, and took advantage of the opportunity to visit Constantinople. He was invited by a deputation of the Medical Society there to attend one of its meetings, and complied with the invitation. The President, Dr. Stekulis, delivered a speech in which he celebrated Virchow's services to science, which had crowned the edifice of the modern anatomical pathology founded by Morgagni. Virchow thanked the speaker, described the impressions which the developing intellectual life of the East had made upon him, gave an account of the present state of biology and, in compliance with a request, described the newest methods of treating leprous diseases. The meeting afterwards assumed a more social character.—*Lancet.*

PRACTICAL NOTES.

THE ORIGIN OF MYOPIA.

Dr. M. Kirchner[1] has made a very comprehensive and interesting contribution to the study of the causes of myopia, together with some valuable suggestions as to its prophylaxis. In 1812 James Wasz made a number of observations, which did not at the time lead to much further investigation. H. Cohen brought the subject into prominence again when he presented his inquiries into the relations between school life and myopia.

Briefly, the salient points in Kirchner's essay are the following: 1. Nationality has an influence, though a slight one, in the production of myopia, as shown by contrasting Jews with other people. The complexion, whether fair or dark, also seems to have some influence.

2. The shape of the cranial bones is also a factor, but how far is not yet determined. Deep orbits and a short face are very frequent in near-sighted persons, but often the same mould of face is found without myopia.

3. Heredity is an important factor. Children are most liable to be near-sighted when both parents have been similarly affected, less liable when only the mother; and least when only the father is thus affected. Boys of myopic parentage are twice, and girls four times as strongly inclined to myopia as the offspring of non-myopic parents.

4. There is but little difference between the tendency of boys and girls to become near-sighted. If any exist, it will be found that under the same conditions more girls than boys will become affected.

5. Occupation has the greatest influence in the production of myopia, as especially marked in those occupations which demand frequent and continuous accommodation of the eye with convergence of the visual axes.

6. Needlework at an early age, unsuitable seats, insufficient light and means of teaching, which make too great demands upon the eye, such as dark slates, poor paper, small type, etc., all possess a most harmful influence.

The following is recommended by way of prophylaxis:

Schools should be well lighted; this should be so arranged that in gloomy weather the darkest part of a room should receive light the equivalent of ten candle power. The window surface of a room should bear the proportion to its floor surface of at least 1 to 5. The interruptions to light should be few, for this reason the panes of glass should be large, and the frames should be of iron. School buildings should be somewhat isolated, not surrounded by other buildings, trees, etc., which lessen the amount of light.

2. The seats should be adapted to the sizes of the pupils, there being at least three sizes in each room. All the pupils should be measured twice a year and seated accordingly.

3. On entering school each pupil's eyes should be examined by a physician and the result recorded. All the pupils should be examined at least once a year, and should any show signs of myopia they should be carefully guarded against further predisposing causes in the assignment of seats, and in the apportioning of exercises, etc. Glasses should not be worn unless by direction of a physician; neither should their use be forbidden except by the same authority.

4. Test letters should be displayed in each room in a suitable place; if on dark days the vision of any of the pupils should be found wanting, it would be better to temporarily substitute oral instruction for exercises in reading or writing.

5. As little as possible of the school work should be done at home. Here, also, each child should have a chair adapted to its size. The hours for study should be arranged by the teacher.

6. Black slates should not be used, but in their stead white slates or paper. In text-books and in writing books white paper and black ink should be insisted upon.

These demands are clearly put, and, further, they can be easily complied with. The most difficult thing would be to regulate the amount of work at home, as well as seats adapted to the size of the children. The latter condition is not only of the highest importance in its relations to the production of myopia, but it plays a prominent part in the consideration of spinal curvature.—Editorial, *Weekly Medical Review.*

CHLOROFORM WATER IN CROUP.

Dr. Bashere has lately obtained excellent results (*Med. Rec.*) from chloroform water in the treatment of false croup, and regards it as superior to chloral in this affection, in that it is not so dangerous, and is eliminated in part by the lungs. Of course its action is local, and its value, probably, due to the sedative effect upon the sensory filaments of the superior laryngeal nerve. He uses a solution consisting of 5 to 10 minims of chloroform to an ounce of water, to which is added a little glycerine to aid the solubility of the chloroform. A teaspoonful of this is given every half hour during an attack, and if there is any dyspnœa the following day, a teaspoonful is given every two hours, increased in frequency to every hour during the evening. This method of treatment is especially applicable to those cases in which the dyspnœa and cough continue during the day.—*Canada Lancet.*

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[1] Deutsch. Med. Zeitsch. f. Hyg.

FOREIGN CORRESPONDENCE.

LETTER FROM PARIS.

(FROM OUR REGULAR CORRESPONDENT.)

Alimentation in the Treatment of Phthisis—How to cure Obesity—How to render Corrosive Sublimate almost Inoffensive—Blenorrhagic Arthropathy.

In the *Journal de la Santé* Dr. Solis-Cohen has published an interesting article on alimentation in the treatment of pulmonary phthisis. The author recommends that the precept of Niemeyer should be followed, in that tuberculosis is the danger of phthisis. Once the malady is recognized we should combat the troubles of nutrition, which favored and probably preceded the invasion of the tissues by the bacillus. Consumption in tuberculous subjects is a malady of nutrition. Its true cause is unknown, although we know that heredity, hygienic conditions, etc., play a great rôle in its development. The author considers the microbicide treatment of pulmonary tuberculosis as secondary and symptomatic. Considering that defective nutrition is the true cause of the development of tuberculosis, he says that a rational treatment should consist in hygienic and medical measures directed against the failure of nutrition. Superalimentation is the best means for attaining this object. "Gavage," or forced feeding, should be reserved for exceptional cases. Excepting during the night, when the patient is asleep, he must not be allowed to pass more than three hours without giving him some nourishment. Even during the night, if the patient does not sleep, he should have some wine with liquid peptones. Different sorts of meat, particularly beef, milk, fish, eggs, and vegetables of all sorts, should form the basis of his nourishment, to which may be added fatty substances, under the form of cream, butter and cod liver oil. Alcohol in large quantities, either with milk, glycerine, or cod liver oil, should be administered. In the evening, at bed-time, the patient will take some milk punch. In the morning, on an empty stomach, he should drink warm water; or, if necessary, lavage or washing out of the stomach should be practiced to prepare the digestive tube for the absorption and the digestion of aliments. Gavage should be employed, as already stated, only in exceptional cases, and be preceded by washing out of the stomach with alkaline or chloroformed water. At the same time with superalimentation an air cure should be adopted. Living in the open air, horse riding and respiratory gymnastics suffice if the patient is not too debilitated. Inhalations of compressed air, with or without expirations in a medium where the air is rarefied. These inhalations will be found useful to children predisposed to tuberculosis.

In the same journal is announced the discovery of a means, as simple as it is strange, for curing obesity, which is attributed to a medical officer in the army. Thanks to this means, a Colonel who was threatened to be obliged to retire from the army, as he was so heavy that it required two men to lift him into his saddle, became thin in a few weeks, and to such an extent that he had to take the means to recover, in a measure, what he had lost. It was to his doctor that he was indebted to have become a General. The means consisted simply in never eating more than one dish at each meal, no matter what that dish may be, and a person may consume as much as the stomach will bear, and satisfy the appetite without the least reserve. Nevertheless, nothing but the one dish should be taken; no condiments, nor soups, nor supplementary desserts should be allowed. This system was recommended by the author of the note to a lady who was slightly obese, and who put it into practice with the best results. The lady observed that she suffered no inconvenience whatever from this diet, and the result obtained by the medical officer may be well understood, as she found by her own experience that the partaking of only one dish, whether it be meat, fish or vegetables, brought on a sense of satiety much sooner than if she had partaken of a variety of dishes, whence the effect of relative abstinence.

According to the *Moniteur Thérapeutique* Prof. Scabzi, of the University of Rome, had undertaken certain experiments in his laboratory, the results of which permitted him to indicate a very simple means for rendering corrosive sublimate almost inoffensive. This means consists in always employing it in minimum doses insufficient in themselves to produce an antiseptic action, and to take the precaution previously to raise the solution of this salt to a temperature of from 40° to 45° centigrade. By this simple artifice the advantages and the antiseptic properties of the sublimate are preserved, without having to fear the dangers of strong doses, with their caustic and toxic action. M. Scabzi had ascertained that a hot solution of the sublimate, of ten thousandth or of twenty thousandth, preserved urine from putrefaction, and that the juice of meat was prevented undergoing any alteration by means of a hot solution of the same salt of one hundred thousandth. These feeble and hot solutions gave him excellent results in the dressing of wounds. According to the *Journal d'Hygiene* of the 31st of October last, these facts had already been established by M. E. Saint-Hilaire, who had undertaken analogous experiments prior to those of M. Scabzi, on the counsel of Prof. Charles Richet.

At the last meeting of the Société Française de Dermatologie et de Syphiligraphie a discussion took place on blenorrhagic arthropathy, at which Dr. Mauriac stated that he has almost given up the internal treatment of blenorrhagic rheumatism, as he found that the agents employed against true rheumatism are without action on blenorrhagic rheumatism, particularly the salicylate of soda. He hardly gives anything else than the iodide of potassium in the cases where there is a gouty tendency. Dr. Fournier observed that notwithstanding numerous researches he had never been able to establish characters special to blenorrhagic discharges which accompany rheumatism. He hoped, in treating the urethral discharge, to produce an amelioration in the articular symptoms, but was always disappointed, for even after the blenorrhagia was cured the rheumatism continued its course. A. B.

LETTER FROM LONDON.

(FROM OUR OWN CORRESPONDENT.)

Strychnine as a Remedy in Chronic Alcoholism and Dipsomania—Volunteer Nurses for Lepers—Sir Morell Mackenzie on "The Voice"—Amenorrhœa due to Mental Shock and with Mental Depression—A Case of Raynaud's Disease.

The most hopelessly addicted to alcoholic beverages would seem to have found a friend in a certain medical man, who has recently contributed an article on alcoholism, in which he describes seven cases of inebriety treated by hypodermic injections of strychnine. He states that in cases of chronic alcoholism and of dipsomania he has found strychnine a very valuable remedy. Not only are attacks cured, but the desire for drink ceases to exist. Even cases of delirium tremens yielded in a large measure to the influences of the method adopted. The treatment, however, would seem to be somewhat tedious, requiring to be carried out systematically and most frequently for long periods of time. In some exceptional instances doses of one-fifteenth of a grain were prescribed, though in general doses of half that amount were given; and while under the treatment in question patients have abstained from all spirituous liquors of their own free will.

A Roman Catholic lady who is a highly trained nurse, and several co-religionist friends, have offered their services to the Government in nursing the lepers at the new hospital to be built on Robben Island. They are somewhat afraid that their noble offer may be refused on religious grounds, but they point out the advantages that the hospital would derive from a disciplined band of women asking only the barest necessities and devoted for their lives to the work. Should their proposal be entertained, they are ready at once to take up a course of special training in the nursing of leprosy. An English lady—Miss Marsden—has just received imperial permission to make special investigations into the extent and condition of the disease in Russia.

Before an overcrowded audience Sir Morell Mackenzie recently delivered a lecture on "The Voice," in the course of which he gave some instructive advice to actors, singers, elocutionists, and others. A very important part with regard to the governing of the voice had reference to what he described as clavicular respiration. This consisted in the expansion and contraction of the clavicles, and many well-known singers employed this clavicular voice. In this connection he mentioned a story with regard to the celebrated singer Rubini, who was known to sing with so much vigor and strength. On one occasion, after he had sung with some great success, he was found to be ill, and the cause of his illness was found to be the fracture of his collar-bone, resulting from too great exertion of clavicular respiration. Sir Morell said there were too many pains taken by modern elocutionists to train the voice without regard to its accents. Accent was as necessary to good speaking as the cultivation of the vocal chords, from which speaking proceeded. In modern times public speaking was not nearly regarded as so important as it was formerly. The daily papers had to some extent destroyed the effect of mere oratory; but there was a great deal of public speaking in these days, and he believed that there was more of this speaking in this country than ever existed in any other enlightened country. It was for this reason he advocated the cultivation of the voice and the knowledge on the part of all those who had to exercise it in a public capacity.

Before a Select Committee of the House of Lords on the management of the metropolitan hospitals evidence was given by a representative of the Charity Organization Society with reference to the mischief caused by the indiscriminate administration of outdoor medical relief by hospitals. In the opinion of the witness this system rendered it impossible for provident dispensaries to exist, and pressed very hard on regular medical practitioners.

The Local Government Board have forwarded to boards of guardians copies of a regulation which has been made by the Commissioners in Lunacy, under the Lunacy Act of 1890, as to the use of mechanical means for the restraint of lunatics. The Commissioners say that they approach the duty imposed upon them by the Legislature with reluctance, and their doing so need not be construed as countenancing the practice, but they recognize that there are cases where mechanical restraint must be applied. They hold, however, that the application of it should be restricted within the narrowest limits possible and applied by the most humane means that can be contrived.

Dr. Herman has put on record several cases of amenorrhœa due to mental shock and with mental depression. He has come across cases in which shock was supposed to have caused cessation, but in which he believed the real condition was one of mental depression, akin to defective nutrition and to melancholia, the amenorrhœa being beneficial rather than not. The uterus showed either some atrophy or no change. In all these cases the Weir Mitchell treatment, massage, and galvanism generally resulted in reëstablishing the function. Those who could obtain change of air, with exercise, food and tonics, attained a like result. Dr. Herman sees no advantage in local treatment, and asks whether there were any cases due strictly to mental shock, unaccompanied by melancholic symptoms. Amenorrhœa was the rule in melancholia.

At a meeting of the Clinical Society Dr. Colman described a case of Raynaud's disease in a girl 10 years of age. The disease attacked usually the two distal segments of fingers of the right hand, in which the ischæmic stage only was reached. The condition has existed for fourteen months. No premonitory symptoms preceded the attacks, the middle finger suddenly became blanched, and the affection then spread more or less rapidly to the other fingers. The thumb was rarely affected. When the left hand was affected, the spasm in both hands was symmetrical, but these attacks were rare. During three of these attacks, changes in the blood in the affected fingers were observed, viz.: crenation and breaking down of blood corpuscles and coloration of the liquor sanguinis. The attacks were worse in cold weather, but placing the hand in hot water would provoke an attack quite as readily as the application of ice-cold water. No hæmoglobin was ever detected in the urine, the small amount liberated being probably excreted by the liver.

For several years the Registrar-General for Scotland has appended to his annual report on the health of the population notes as to the relation between weather and health. There seems from these to be a clearly established gradation from the average highest months of death-rate, which occurs between December and March, up to the lowest average, which takes place in August or September. A mild winter is as a rule healthy, but there are exceptions, and in Scotland, as in most European countries, last winter was such an exception. The influence of weather on the spread of the more common diseases of the zymotic type seems also to be of a very marked description, scarlet fever and measles appearing to have fairly regular periods of maximum and minimum, in the variations of which weather plays a part.

The Marchioness of Salisbury opened a bazaar at the new Hospital for Women, Euston Road, in aid of the ground rent fund of the institution. The bazaar was most successful and a large sum of money was obtained. The institution is expected to be ready for opening for hospital purposes in the course of a few weeks.

The Gold Medal of the British Medical Association for distinguished merit will be presented to Surgeon Parke, of African fame, at the annual meeting of the Association in July. Dr. Parke has promised to be present. G. O. M.

DOMESTIC CORRESPONDENCE.

LETTER FROM NEW YORK.

(FROM OUR OWN CORRESPONDENT.)

Annual Meeting of the Fifth District Branch of the New York State Medical Association—New York Academy of Medicine—Consolidation of Cancer Hospitals—Adirondack Park Association—New York County Medical Association—American Pediatric Society—Miscellaneous Gleanings.

The annual meeting of the Fifth District Branch of the New York State Medical Association, which was held as usual in Brooklyn, was unusually well attended this year, and was very successful in every way. A pleasant feature of the gathering was a bountiful luncheon served between the morning and afternoon sessions, and which was paid for out of the accumulation of interest from the Permanent Fund of the Branch. The President for this term is Dr. Wm. McCollom, of Brooklyn, and after his introductory address interesting biographical sketches of Dr. Isaac E. Taylor and Dr. Charles S. Wood, the lamented President of the New York County Medical Association, were read by Drs. John Shrady and C. A. Leale. The scientific papers were of a very able character, and among those reading them were Drs. W. H. Thayer, of Brooklyn, H. E. Schmid, of White Plains, and George T. Harrison, of New York. The next meeting of the Branch is to be held at Kingston, on the Hudson, in the latter part of July; and the programme will include an excursion for the Fellows and their families to the neighboring Catskill Mountains, such as proved so enjoyable in connection with the last meeting at Kingston, a few years ago.

At a recent meeting of the New York Academy of Medicine Dr. Robert Abbe read a valuable contribution to the comparatively novel subject of spinal surgery, reporting eight cases in which he had opened the spinal canal. Three were cases of paraplegia resulting from fracture of the vertebræ, one of Potts' disease, one of tubercular trouble (which was treated like a tuberculous joint), one of sarcomatous tumor pressing on the cord, and two of intractable brachial neuralgia. In the last case amputation of the arm had previously been performed without affording relief. In the case of tubercular disease the results were brilliant, but as a rule they were not very satisfactory; though sufficient to show that in certain desperate and otherwise hopeless cases the operation was worth attempting. At the final meeting of the Academy in its old building Dr. George M. Sternberg, of the Army, presented a report of his bacteriological researches in yellow fever, with magic lantern illustrations; after which there was a collation and social reunion. The handsome and commodious new building of the Academy on Forty-third street, near Fifth Avenue, will be ready for occupancy in the autumn.

At the semi-annual meeting of the New York Skin and Cancer Hospital it was announced that negotiations were in progress for the consolidation of that institution with the New York Cancer Hospital; and it is greatly to be wished that the plan may be consummated. The former has a small hospital of a few beds, associated with a large dispensary department, in the centre of the city, and a country branch with suitable buildings and abundant space splendidly located on Fordham Heights overlooking the Harlem River; while the latter possesses magnificent buildings in the upper part of the city fronting on Central Park. These buildings, which are not yet completed, have been erected, chiefly through the liberality of the Astor family, at an expense of many hundred thousand dollars. It was a matter of great regret to many interested in humanitarian work in New York that this newer institution, occupying to a large extent the same field, should have been started in opposition, so to speak, to the older one; as it was felt that energies and means which ought properly to be concentrated on a single object would be to a greater or less degree wasted in maintaining two separate charities of like character. A single institution with abundant resources is quite sufficient to carry on the work in question, and it will be a matter of sincere congratulation, therefore, if the proposed consolidation should be effected.

An Adirondack Park Association, with Dr. Alfred L. Loomis as President, has been organized for the purpose of preventing further destruction of the Adirondacks by lumbermen and others, and of establishing a State Forest Park in that region. At the meeting at which the organization was effected Dr. Loomis urged the protection of the forests from a medical standpoint; stating that when he first visited the region twenty-eight years ago he was suffering from apparently hopeless pulmonary disease, but returned to the city in less than a year entirely cured. Almost ever since then he said he had been sending patients there, because he was convinced that the Adirondacks were unsurpassed as a health resort. Their efficiency in this respect would soon depart, however, unless steps were quickly taken to stop the vandalism of the lumbermen and the railroads.

At the last meeting of the New York County Medical Association Dr. Paul Gibier, who was sent by the French Government to investigate the Florida epidemic of yellow fever, and who recently established and became director of the Pasteur Institute in this city, read a paper in which he described in detail the sensations experienced by himself and his two assistants at the laboratory during and after the process of inoculation by the Pasteur method. It was deemed safer that they should be inoculated, on account of the risk incurred in their manipulations with strong hydrophobic virus. Since the Pasteur Institute was opened a short time since quite a number of patients, from various parts of the country, have been treated at it. Among them has been Judge Masterson, of Brazonia, Tex., who was bitten in May by a dog supposed to be mad, and cabled to Pasteur in reference to coming to Paris for treatment. The latter sent word back that it would be much better for him, on account of the saving of time and expense, to place himself under Dr. Gibier's hands; and he accordingly did so. More recently seven boys from St. Joseph, Ill., who were all bitten by a rabid mongrel cur, have been under treatment at the Institute. The people of St. Joseph are much interested in their case, and a movement is said to be on foot among the citizens to raise a subscription to defray the expenses of the party.

Out of seven patients treated at the Institute during the month previous, in three cases hydrophobia was shown to have existed in the dogs that had bitten them by the inoculation of other animals with virus taken from the dogs. Moreover, one individual who was also bitten by one of these dogs, but who did not apply for treatment by the Pasteur method, died of the disease. In the four other cases rabies was very probable, but either the dogs had disappeared while alive, or it was impossible to secure their bodies for post-mortem examination.

During the first week of June the American Pediatric Society held its second annual meeting at the Mott Memorial Hall in this city, under the Presidency of Dr. J. Lewis Smith, the distinguished authority on diseases of children. A considerable number of those specially interested in this department of medicine from different parts of the country were in attendance, and the sessions were of much interest.

By a very happy stroke the Post-Graduate Medical School and Hospital recently secured, through the aid of the dramatic profession, a very handsome addition to its pecuniary resources. On a certain afternoon attractive theatrical performances were given for its benefit at three of our first-class theatres and at the Metropolitan Opera House, and as all the artists volunteered their services, the net proceeds of the series of entertainments were quite large. In return for the assistance given by the players the Post-Graduate Hospital guaranteed, from the money thus received, to endow for one year three beds for members of the Actors' Fund Association.

The new State Commission in Lunacy, in accordance with the provisions of the statute creating it, has taken important action regarding the commitment of the insane to asylums, and in order to secure absolute uniformity and accuracy in the matter, has distributed for use throughout the State forms in regard to the examination of persons supposed to be insane and to the qualifications of physicians acting as examiners in lunacy. This, of course, is a matter in regard to which too much care cannot be observed, and its importance is emphasized in a case which has recently been brought to the attention of the grand jury in the neighboring city of Hoboken, N. J. The facts of this case, as reported, are that the commitment of a perfectly sane woman was secured by her husband to the State Asylum at Morris Plains, where she was detained for a month before her father, to whom she wrote for aid, succeeded in effecting her release. The certificate on which she was received into the asylum was signed by her family physician and by the City Physician of Hoboken, and the evidence given in the case showed that the former had not seen her for two months before he signed the certificate, while the latter had never seen her at all, and signed the document simply on hearsay.

One of the greatest successes in recent medical literature, and deservedly so, has been the "Handbook of Physical Diagnosis of Diseases of the Organs of Respiration and Heart," by Dr. R. C. M. Page, Professor of General Medicine and Diseases of the Chest in the New York Polyclinic, and recently chairman of the Section on Practice of the New York Academy of Medicine. Within a few months after the issue of the first edition a second edition was called for, showing that the unusual excellence of the work is suitably appreciated by the profession. In this work the illustrations by Dr. Henry Macdonald, many of them beautifully colored and most of them original and copied from life or pathological specimens, constitute a feature of very special interest.

The most elaborate and gorgeous Chinese funeral services ever seen in this city were those of Dr. Young Doo Hing, a physician of great repute and of high rank in the Masonic order, who died of phthisis a short time since. Although he is reported to have had a very large practice among his countrymen, he does not seem to have been possessed of any property to speak of at the time of his death; but he was apparently immensely popular in the Celestial community, and when he died his friends contributed some five thousand dollars to give him a becoming send-off to the realms of almond-eyed blessedness. For days before the funeral Mott Street, the centre of the Chinese quarter, was thronged with people who made the air resound with the continuous din of firecrackers, gongs, tin pans and various kinds of wind instruments of soul-entrancing melody. The obsequies were conducted in the most approved style of Chinese Masonic splendor, and the funeral procession was a most imposing affair. The hearse, which was drawn by four black horses, was preceded by a "royal guard" in glittering helmets, and a body of mounted Masons with many gorgeous banners, accompanied by Chinese and Italian bands of music, and was followed by a line of seventy-five carriages, while it seemed that every Chinaman in New York and all the adjacent cities and towns had come to look at the spectacle. At the completion of the services at the grave all the personal effects of the deceased were piled up in a heap and burned, in the confident expectation that the various articles would be ready for his use as soon as he arrived at the gates of Paradise.

There is an old newsboy who travels on one of the branch lines of the New York and New Haven Railroad who is cutting a third set of teeth. The new teeth are said to be making favorable progress through the gums, and it is believed they will be strong and serviceable. He is now in his eighty-second year and he is probably the most venerable newsboy in the service. P. B. P.

NECROLOGY.

Charles Henry Lothrop, M.D.

Dr. Charles Henry Lothrop died at his home in Lyons, Iowa, February 6, 1890. He was born September 3, 1831, at Taunton, Mass. His parents, Cornelius White, and Elinor Lothrop, were both of English descent. On his mother's side he could trace it back to the Pilgrims of the "May Flower." At the age of 16 he began teaching, and taught school several years at Taunton and vicinity. Attended college two years at Brown University, Providence, R. I. Attended one course of lectures in the Albany Medical College. Graduated June, 1858, in the Medical Department of the University of the City of New York. He then located himself in Lyons, Iowa, and soon attained a good rank in his profession. At the beginning of the war for preservation of the Union, he volunteered his services, and for four years did excellent service as Assistant Surgeon of the First Regiment of Cavalry of the Iowa Veteran Volunteers. He was present in not less than fifty-two engagements. He was married May 6, 1876, to Sarah V., daughter of Rev. John Naille, of Elizabethtown, Pa.

Dr. Lothrop has been a prominent figure in Lyons, both professionally and as a citizen for the last thirty years of his life. He was a member of the Iowa and Illinois Central Medical Association, the Iowa State Medical Society, a member of the Examining Committee of the Medical Department of the Iowa State University, and since 1868 an examining surgeon for pensions, and a member (by invitation) of the American Medical Association since 1873.

Although suffering the inconveniences of paralysis of the lower extremities, for the last seventeen years, he has by his indomitable will and acknowledged skill as a physician and surgeon, attended to a large office practice most of the time, has written several medical essays, some of which have been published in the *Boston Medical and Surgical Journal;* has compiled and written the "Iowa State Medical and Surgical Directory," acted as examining surgeon for pensions, and but a few weeks before his death, by the aid of his wife, practically completed the "History of the Iowa Cavalry," which constituted his most valuable literary achievement. He was a member of Col. N. B. Howard's Post G. A. R., of DeWitt, Iowa, and a member of the Legion of Honor.

Dr. Lothrop was a man of earnest convictions and strong feelings. He was an indefatigable worker. He was an intense patriot. It has been the good fortune of but few Army Surgeons to be the recipients of greater praise than was bestowed upon him by the soldiers of his company. And in the death of Dr. Lothrop the soldiers have lost a trusted and true friend, the medical profession a valued member, and the cause of humanity one of its most useful servants. J. B. I.

BOOK REVIEWS.

Physicians' Leisure Library. A TREATISE ON FRACTURES. By PROF. ARMAND DESPRÉS, Surgeon of Charity Hospital; member Society of Surgeons; member Anatomical Society, etc. Translated by E. P. HURD, M.D., member Mass. Med. Soc., member Société de Médecine Pratique, etc. Detroit, Mich.: George S. Davis. 1890. Pp. 112.

This brochure is taken from the third edition of Després' work entitled *Chirurgie Journalère.* It contains short accounts of the treatment of the more common forms of fracture, with some additions to the original work which have been made by the translator.

MISCELLANY.

LA GRIPPE IN INDIA.—The *Indian Medical Gazette* says, the local names which this disease has acquired in its travels are almost as many as the countries visited. It is now prevalent in India. It first appeared in Bombay, and in Calcutta it is called the Bombay fever. Soldiers, artizans, clerks, police and prisoners have been attacked. The severe symptoms of pneumonia and capillary bronchitis which accompanied the disease in cold climates have been rare in India. Where relapses have occurred the disease has been alarming on account of the extreme debility following the attack.

LETTERS RECEIVED.

Dr. R. J. Dunglison, Dr. C. Seiler, Phila.; Dr. G. P. Reynolds, Alameda, Cal.; Dr. H. A. Hughes, Phœnix, Ariz.; Dr. M.D. Ewell, Dr. H. Wardner, Chicago; Dr. S. O. L. Potter, Dr. R. H. Plummer, San Francisco, Cal.; Dr. H. A. Carrington, Buffalo, N. Y.; Chicago, Milwaukee & St. Paul Ry. Co., Milwaukee, Wis.; Dr. M. W. Knight, Milford, Mass.; Dr. S. Norman, Evansville, Ind.; Mrs. A. N. Wilson, Boston, Mass.; Dr. B. F. Arnold, Newport, R. I.; Dr. J. Hawes, Greeley, Col.; Dr. J. E. Best, Arlington Heights, Ill.; Hattie E. Simington, Danville, Pa.; Dr. N. Hibbard, Danielsonville, Conn.; Dr. W. A. Boor, New Castle, Ind., J. W. Beidelman, Little Rock, Ark.; Canton Surgical & Dental Chair Co., Canton, O.; Dr. J. G. McDougal, New Lexington, O.; Dr. J. B. Lindsley, Nashville, Tenn.; Dr. H. Lint, Hub City, Wis.; Dr. E. B. Mauk, Malinta, O.; Dr. M. A. Keller, Monticello, Ill.; Madison Reece, Abingdon, Ill.; The Parmenter Printing Co., Lima, O.; Dr. W. H. Coffman, Georgetown, Ky.; Dr. L. D. Mason, Brooklyn, N. Y.; Dr. X. T. Bates, Poughkeepsie, N. Y., Dr. R. Le Baron, Pontiac, Mich.; Dr. A. Robinson, Bangor, Me.; H. L. Collins & Co., Dr. A. Sweeney, St. Paul, Minn.; Dr. T. L. Dasque, Allegheny, Pa.; Dr. J. W. H. Lovejoy, Washington; Dr. W. G. Weaver, Wilkes Barre, Pa.; Thos. Leeming & Co., N. Y.; Dr. F. B. Davidson, Fleetville, Pa.; Dr. C. R. Reed, Middleport, O.; Dr. W. S. Brown, Stoneham, Mass.; The Maltine Manufacturing Co., New York.; McIntosh Battery & Optical Co., Chicago; Dr. H. H. Mudd, St. Louis, Mo.; Dr. B. A. Watson, Jersey City, N. J.; Dr. C. G. Bacon, Fulton, N. Y.; Dr. D. J. Townsend, Lohrville, Ia.; Dr. M. L. Hildreth, Lyons, Neb.; Dr. F. M. Bell, Kelso, Washington; Dr. A. D. Bundy, St. Ansgar, Ia.; Robert Clarke & Co.; The Victor Safe & Lock Co., Dr. Max Thorner, Cincinnati; Dr. D. J. McCaffrey, Blackstone, Mass.; Dr. N. Senn, Milwaukee, Wis.; P. C. Lewis, Catskill, N. Y.; Ragsdale & Chassell, Le Mars, Ia.; J. M. Dunham, Columbus, O.; The Univ. of Minn., Minneapolis, Minn.; Dr. G. F. Lydston, Chicago; Dr. Thos. Opie, Baltimore, Md.; C. Thomson, New York; T. W. Hannaford, London, Eng.

Official List of Changes in the Stations and Duties of Officers Serving in the Medical Department, U.S. Army, from June 7, 1890, to June 13, 1890.

Capt. William D. Dietz, Asst. Surgeon, is granted leave of absence for one month. Par. 4, S. O. 131, A. G. O., Washington, D. C., June 5, 1890.

Capt. L. W. Crampton, Asst. Surgeon, is granted leave of absence for one month, to take effect the 15th inst. Par. 5, S. O. 75, Dept. of the Missouri, St. Louis, Mo., June 9, 1890.

By direction of the acting Secretary of War, Capt. John de B. W. Gardiner, Asst. Surgeon, having been found incapacitated for active service by an Army retiring Board, will proceed to his home. Par. 12, S. O. 135, A. G. O., Washington, June 10, 1890.

By direction of the acting Secretary of War, Major George M. Sternberg, Surgeon, will, in addition to his present duties, perform the duties of the post surgeon at Ft McHenry, Md., during the absence of that officer on leave.

Official List of Changes in the Medical Corps of the U. S. Navy for the Week Ending June 14, 1890.

Surgeon M. H. Simons, ordered to the U. S. S. "Enterprise."

CORRIGENDA.

In Dr. L. D. Mason's article published in THE JOURNAL of June 7, entitled "A Study of 4,663 Cases of Alcoholic Inebriety," under *Results of Treatment*, page 824, reads 29½ per cent. *unimproved*, should be 19½ per cent. unimproved. Page 824, second column, reads thirty-six *cases* were lost sight of or *unimproved*, should be thirty-six per cent. were lost sight of or unimproved.

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ADDRESSES.

LARYNGOLOGY AND OTOLOGY: THEIR RELATIONS TO EACH OTHER.

Read in the Section of Laryngology and Otology, at the Forty-first Annual Meeting of the American Medical Association, held at Nashville, Tenn., May, 1890.

BY JOHN O. ROE, M.D.,
OF ROCHESTER, N. Y.
CHAIRMAN OF THE SECTION.

Another year has past, and once again we meet to grasp each other by the hand in cordial fellowship, to bring with us the results of our labors during the past year, and to carry away with us such food for thought as will make us more efficient for good work during the year to come.

It is unnecessary for me to express in any formal manner my appreciation of the high honor which I have received in being chosen to preside over your deliberations during the present session.

The year just past cannot be said to have been an eventful one in the departments of laryngology and otology. Although the literature of these subjects has been voluminous, we are unable to announce anything of very marked importance which has been contributed to the improvement of our therapeutic measures. The advancement which has been made has been in the line of paths already well-beaten, rather than in the exploration of new fields of research.

It is with deep regret that we must record the death of Voltolini, who has added, during his long and active career, so much valuable material to the departments of medicine in which this Section is specially interested. He has left us a valuable memento in his last work, which is a most important contribution to our scientific knowledge of the diseases of the nose and naso-pharynx.

Before proceeding with the regular business of the session, permit me to call your attention to a few words upon the mutual relations of laryngology and otology. Under the term "laryngology" rhinology is generally understood to be included; but this latter branch is of sufficient importance to be regarded as coördinate with laryngology and otology. Strictly speaking, this department should, therefore, be a laryngological, rhinological and otological Section. The relations between these three departments are intimate and inseparable. We, hence, believe that it was a great mistake for the International Medical Congress, the British Medical Association and the Congress of American Physicians and Surgeons to divorce otology from the family to which it belongs, by making it a separate Section. This mistake is at once seen when we consider that very few diseases of the ear can be successfully treated without a thorough knowledge of the diseases of the nose, naso-pharynx and fauces. It is not enough for one who would be skilled in the treatment of the diseases of the ear to be able to detect the more pronounced diseases of the nose and throat; he must also be able to recognize the slightest abnormalities in the nose and throat, and be sufficiently skilled to correct these as well. For example, the limited bony pressure of a small exostotic spur in the nose might be the means of exciting a persistent tinnitus or a labyrinthine congestion; and without the removal of this exciting cause, the treatment of the ear would be futile.

And, on the other hand, it is not sufficient for the laryngologist and rhinologist to understand simply the diseases of the throat and nose; he must understand as well the diseases of the adjacent organs, which so frequently become secondarily involved. He must not only be familiar with the use of the laryngoscope and rhinoscope and the nasal speculum as diagnostic aids, but he must also become thoroughly conversant with the use of the aural speculum and the tuning fork. It would be as foolish for the rhinologist to ignore the large number of aural complications that he meets with in his rhinological work, as it would be for the laryngologist to ignore the pulmonary condition that was associated with or resulted from a disease in the larynx that he was treating. This is apparent when we consider that nearly all the abnormal changes that take place in the ear result from those diseases in the throat and nose which produce narrowing or obstruction of the Eustachian tube.

It is an encouraging sign of the time to see otology seeking a divorce from its old associate, ophthalmology, and forming an alliance with its more congenial friends, laryngology and rhinology. Notwithstanding the fact that ophthalmology is still trying to maintain its former relation with otology, it must be evident to every intelligent person that the eye and ear have too little in common to justify this relationship. One of the leading men in the ranks of the old *régime* recently said, that he hoped he was the last of the race to harness the two together; and I am sure that every one in this Section will congratulate him upon his frank confession.

In glancing over your programme, gentlemen, you will observe that we have endeavored to preserve the proper relation of laryngology and otology, and so to arrange the papers as to compel the laryngologist and rhinologist to listen to the words of wisdom from the otologist; and, in turn, to teach him what he should know about the diseases of the throat and nose. I predict that, in the near future, they will be regarded as the most expert otologists who know the most about the throat and nose; and that the expert laryngologist and rhinologist will not know less than the otologist about the diseases of the ear.

In order to make this Section of special interest to many who may not be directly concerned in laryngology and otology, a discussion has been prepared with reference to questions pertaining to croup and diphtheria. This discussion cannot fail to interest every practitioner of medicine, and particularly the members of that Section which is devoted to the diseases of children. The members of that Section we hope to meet with us in common session on Thursday afternoon, and we trust that they will freely participate in that discussion.

The value of systematic and prearranged discussions on important questions is, I believe, too little recognized in our medical conventions. We believe such discussions to be much more valuable than the simple reading of separate papers on a variety of subjects, however carefully prepared they may be. A paper becomes doubly valuable when it provokes a free and intelligent discussion upon its merits and defects. We cannot overestimate the importance of a careful comparison of opinions on the part of those whose researches and experience qualify them to contribute to the cause of medical science. We may accept the wise words of Talleyrand, that "all men know more than any man," and I believe that by combining our wisdom and experience, we may each of us make some valuable addition to the sum of our knowledge.

I will not detain you, gentlemen, with any further remarks of my own, since we have so long a programme before us and so many valuable papers which merit our attention.

Sanitary conventions will be held under the auspices of the Michigan State Board of Health at Alpena, July 10 and 11, and at Charlevoix, August 14 and 15.

ORIGINAL ARTICLES.

A FEW CLINICAL OBSERVATIONS ON OPERATION FOR CONGENITAL CLEFTS IN THE GUMS, LIPS AND PALATE, IN EARLY INFANCY.

Read in the Section of Dental and Oral Surgery, at the Forty-first Annual Meeting of the American Medical Association, at Nashville, Tenn., May, 1890.

BY THOMAS H. MANLEY, A.M., M.D.,
OF NEW YORK.

As defects of development or deficiencies of growth in and about the buccal and nasal cavities, of varied phases and degrees, are extremely common, it might seem that anything offered, of a practical character, in connection with them, would be of special interest and value to dental surgeons, whose domain, in my judgment, should include the whole bony framework of the alveolar arches, the palatine vault, and the cavernous sinuses of the nares, covered and nourished by the membrane of Schneider.

In the process of evolution, from birth, up through the varied stages of bodily growth, it is interesting to note, with the eruption of the teeth, the period of suckling, and the acquisition of speech, the many delicate and complicated changes in adjustment, structure and function, observed along the outlines and walls of the oral portal; that opening through which must pass all the aliments, the respiratory gases, and phonetic sounds, and on the harmonious contour of which so much depends, for expression, character and beauty. My experience has led me to the conclusion that, with the solitary exception of a fissure in the soft palate, the time at which many congenital defects in this region may be most successfully and rapidly remedied, is when the infant is very young, and during the early stages of development.

During the past eighteen months, I have done five operations for harelip, in all of which the gum was fissured, and the floor of the nose opened through. When I have had the opportunity of selection, I have always preferred the *earliest possible* period after the delivery of the mother.

I am convinced that, in the vast majority of these cases, the deformity is due, not to any deficiency of structure proper, but to a defective arrangement; and acting on this theory, my line of action has been, to replace the divided parts before ossification is well advanced, while those thin cartilaginous shells and tufts are readily flexible, and yield under moderate pressure.

I have observed in every instance, that with a limited osteoclasis, and reposition of the separated osseous segments, the division, in the soft parts, almost wholly disappears. The tension being removed, the refreshening and union of the cleft labia were always a matter of ease and simplicity. My patients' ages ranged from a few days to 6 months.

The first of this series had a fissure extending through the lips, gum, and hard palate, and was 9 days old when I operated. After a preliminary osteoclasis, I wired the separated edges of the alveolar borders of the gum with silver wire; then carrying the scalpel along the dividing line of the mucous and cutaneous convexity of the lip, separated, and later closed them, after the method of Maurice Collis, of Dublin, *i. e.*, not the *smallest particle* of tissue was sacrificed.

The wound healed kindly, and in ten days all the superficial sutures were removed. The baby now took the nipple, and continued thereafter to nurse, without the least difficulty. In three weeks' time I removed the deep, osseous, metallic sutures.

My next cases, two in number, I operated on in the summer—early in August. One baby was 4 days old, the other 8 days.

With the first, the cleft was through all the parts, hard and soft, into the pharynx, on one side only, the left; the alveolar ridge, nasal septum and palate being forced outward, and away from the left, for a considerable distance. Owing to the great chasm, and for want of some sort of central support, the columnar nasi had fallen in; which gave the nose a flattened out, shapeless form.

This case, though accompanied with the greatest degree of distortion, was the most simple of management. Acting precisely on the same principles as the preceding, the divided segments of the arch were brought together, and the vermilion borders of the lips closed. This case did well, except that two of the superficial sutures ulcerated through, requiring another trivial operation on the thirtieth day. Four days after the operation I was obliged to be absent from the city for two weeks, and it was during this time, for want of proper attention, that the accident happened.

The third had a double ridge, spreading widely open both cavities. The nasal and buccal cavities were thrown into one. The intermaxillary tuft was crowded forward, and curved in an upward direction. The little one, owing to the want of any sort of suction apparatus, swallowed with great difficulty. Every time liquids were swallowed, the head had to be well thrown back, and fairly poured into the stomach-tube. In proceeding with the operation in this case, for the first time, I had to use the chisel and mallet, in order to bring the bones into position, doing an osteotomy on both sides. I entered the chisel just posterior to the canine fossa, on a line with the pterygoid process of the temporal bone. This enabled me to replace the bony segments and complete the operation in the usual manner. The advanced state of ossification in this case was most singular. But we sometimes meet with an analogous state of the cranial bones, in parturition, which makes labor difficult or impossible.

As this infant was operated on at the same time as the second, from the same causes primary union was not wholly complete, and some later repairing had to be done. After this, the little one did well, the wound completely closing, when he was taken down with cholera infantum and died. Case four was identical anatomically with the one third narrated, except that owing to the child's advanced age, several changes had taken place. He was 6 months old. The central segment was pushed much further forward; the maxillaries on both sides had advanced in similar directions, to such a degree that their anterior margins barely touched each other; in this manner lifting up and throwing forward the piece attached to the perpendicular plate of the ethmoid, and giving it a most hideous and snout-like appearance. The parents kept the mouth almost constantly covered, not only to conceal the deformity, but to prevent the almost constant drooling from the open vent. It was quite apparent at the first glance, without examining in detail, that there was a formidable case before us for operation. The time for dentition had arrived, the powers of locomotion, observation and reason were becoming manifest; the parts had firmly ossified, and adapted themselves to their deformed position; hence an operation which contemplated the division, resection, or crushing in of those parts, must be attended with much loss of blood, and great shock. This, indeed, seemed so clear to me, that I fully advised the parents of the great dangers in the way, and made up my mind to divide the measures for relief into two or three operative stages. Prof. Jarvis had recommended me to the mother of the child, and as they had come a great distance, they were determined to take the chances, rather than have the boy grow into manhood with this terrible deformity.

My plan of attack was, to first content myself with an osteoclasis; to forcibly crowd back and fracture the maxillaries, then, if the septum refused to yield, remove a wedge of it, at the point of junction of the vomer with the ethmoidal plate. This would permit me to place the intermaxillary segment where it belonged, and as the tuft always contains four teeth, the central and lateral incisors, it was indispensable to save it at all hazards, for without it, the shape of the mouth is forever lost, and as the opposing jaws would so widely deviate, that the use of the teeth as triturators or grinders of the food would be forever lost. If I succeeded well with the preliminary operation and the baby safely survived it, I intended later to do a superficial plastic and uranoplastic operation. Very much to my surprise and gratification, on moderate pressure, the lateral walls of the upper jaw gave away sufficiently to allow me to bring closer, and fit into the breach made, the projecting intermaxillary tuft. Before, however, this came into position, I had to remove a small U-shaped piece of the bony septum. Now I passed a heavy riveted piece of wire through the margin of the upper maxillary, through the centre of the intermaxillary, transfixing and permanently adjusting its free end, near the border of the opposite segment. This step solidly and firmly fixed the whole alveolar arch; besides gave form and expression to that part, where before there was none. As this was so readily and rapidly executed, I was tempted to complete the plastic on the soft parts at the same time; which I did. The infant was under chloroform something more than two hours.

He rallied well, and his prospect seemed excellent till the evening of the next day, when his temperature went up to 103° at midnight, when I was called and found him in a violent convulsion. He came out of it a moment after I entered. Now 3 grs. of quinine were given him *per rectum*. The next morning his fever had disappeared, and his general condition was good. His wound did well. On the sixth day I removed two of the superficial sutures on each side. Primary union had taken place except at the point where the base of the nostrils were closed. Here there had been infection from the nasal mucus. I introduced a fresh suture, and provided against future infection by stuffing both apertures with iodoform gauze.

When the integument was well healed, and the three separated segments had fused together, I removed the deep girder of wire from the bony structures underneath. The mother and child left for home just two weeks from the day of operation.

Fifth case. Male child 8 weeks old. This case was also one in which there was a double fissure dividing everything from the lip backward through the gums, hard and soft palate, except along the under convex margin of the nasal openings, where a very narrow ridge of integument connected the nasal cartilage with apex of the cleft lip.

The intermaxillary segment was displaced forward to considerable extent, but not to such a degree as in the other cases, owing to this very diminutive but useful remnant of cutaneous tissue, moderating and restraining a further outward advance of it.

Though the baby could not draw the mammary gland, he was able to nurse the bottle through the rubber nipple, but, owing to the inability of perfecting the intermittent vacuum in suction, a considerable quantity leaked out from above, through the nares.

The child was fairly healthy, though not very vigorous. This baby was operated on Wednesday, May 13, and through the courtesy of the family physician, Dr. Geo. S. Lamoree, of Highland, New York, and by consent of the parents, it was done at my usual weekly clinic at the Harlem Hospital. I commenced operative procedures, *in this instance*, by cutting off the immediate and largest blood supply to the parts, through which the blade must pass, by ligating both coronaries at each labial commissure with the temporary transfixion ligature. Then the field of operation was thoroughly washed, and drenched with the mercuric chloride solution, and every source of possible contamination shut off by light, soft sponges.

Finding that the bony septum was somewhat resistant to backward pressure, I cut a thin wedge-shaped piece away from it, when I was able to place the central tuft where nature intended it should permanently lodge. The remainder of the operation was completed in the same manner as all the preceding.

The clinical, though only one side to be considered, in connection with these cases, is full of interest, and is, I think, second only in importance to operative procedures.

In every one of these cases there was either a history of heredity or maternal impression. In case 1, maternal fright was clear and unmistakable. In case 2, the father's labio-nasal column was clearly defectively developed at birth, as evidenced by the immobile, contracted movement of the upper lip. In cases 3 and 5, maternal impressions were unquestionable, as both mothers' immediately preceding children were similarly marked. In case 4, a cousin of the mother had this deformity. In both of these operations had been done, but neither of the babies survived. In my series there were three females and two males. In all, nursing was impossible until the breach in the tissues had been closed in. Certainly, in every instance, a most repulsive deformity would remain if the chasm were left open, and all labial and lingual articulate sounds would be impossible of utterance.

The nasal secretions, especially of a catarrhal character, discharging into the mouth and blending with the aliments, must inevitably befoul and taint the stomach, constantly provoking indigestion or diarrhœa.

The fundamental principles to be observed in the operation for relief of this deformity, as I perform it, while simple, must yet be observed to the letter, or our efforts will fail to attain what we aim for.

1. To operate as soon as possible after birth, provided the infant is healthy.
2. To do a preliminary osteoclasis when the bony framework is involved.
3. Hæmorrhage must be absolutely suppressed when possible.
4. Antiseptics must be applied with the utmost diligence, as on the latter we almost solely depend for primary union of the soft parts.
5. In trimming or preparing the margins for adaptation, or adjustment, it is of cardinal importance that not the slightest morsel of tissue be sacrificed; for though, by free paring or slicing away, the mechanical part may seem more simple, and the immediate cosmetic effect will be

better, yet it must be borne in mind that condensation and contraction follow every sort of mutilation of the integuments, no matter how slight; and further because, in the process of evolution of the teeth, the parts will be put on the stretch to such an extent as to totally obliterate the apparent good effects of the operation, rendering speech difficult and painful, and the ready opening of the mouth impossible.

6. Unless under exceptional circumstances, the surgeon should decline to operate unless his patient remain within convenient distance, so that he can be seen once or twice a day, or oftener, during the first week—in fact, until solid union of the superficial parts is solid and complete.

As the region of operation in these cases is in immediate contact with escaping mucus and saliva, milk, soups, or other liquid aliments, it is extremely difficult to preserve the line of suture wholly free from pathogenic germs. To provide against this as far as possible, it is necessary to close in everything hermetically, and to stuff both nares well from the bottom with iodoform gauze; hence I use liquid collodion, applying several coats of it before adjusting other dressings.

Unfortunately, in some cases the tender cuticle is intolerant to antiseptics and a painful dermatitis develops, when the dressings must be promptly changed, or the deeper connective tissues become involved, with a plastic exudate and swelling which will seriously disturb or prevent healing. In one of my cases every sort of suture excited ulceration along its tract, and I had to depend on adhesive plaster to complete the sealing of the part. The constitutional treatment is of vital importance.

The infant is always in pain, for the first day or two, and needs the *unceasing* attention of the mother. No *nurse* can take her place. I invariably give a small dose of calomel immediately after operation, and sufficient of the camphorated tr. of opium to keep the infant quiet, for violent crying puts the parts on a dangerous strain; besides, I believe convulsions are less apt to follow when the reflexes are not blunted by the analgesic action of the narcotic.

I allow the usual food to the infant when not nursing, though in two instances the patient was able to take the nipple of the mother after the tenth day. In every case, with a nursing child, the milk should be drawn away and fed to the baby until union is complete, when it can be taken in the usual way.

NOTE.—In case 5, three days before I left for the Nashville meeting, I operated. When I returned I found everything broken down; sepsis had developed, rendering everything a total failure. I now divided the oral muscles on the right side and went over the procedure again; but succeeded only in fixing the intermaxillary bone, and getting union of the soft parts on one side. As the baby was very frail and inclined to tuberculosis, I had the parents take him home. I will, later, when his geneal health is improved, endeavor to unite the cleft on this side. In the meantime I have, in presenting this brochure, been desirous of having my professional brethren see just precisely and honestly what has been done; the bad or unfavorable results, as well as the successes

A PLEA FOR EARLY OPERATIVE INTERFERENCE IN ACUTE PERITONITIS, WITH ESPECIAL REFERENCE TO THE SO-CALLED IDIOPATHIC PERITONITIS IN CHILDREN.

Read in the Section of Diseases of Children at the Forty-first Annual Meeting of the American Medical Association, Nashville, Tenn., May 20, 1890.

BY G. FRANK LYDSTON, M.D.,
OF CHICAGO, ILL.

A perusal of the record of results of strictly medical treatment in acute peritonitis, since that disease was established as an entity by Bichat, in 1802, is not conducive to professional conceit. Before the introduction of the opium treatment by the late Dr. Alonzo Clark, in 1850, the disease was almost invariably fatal. Prior to Clark's innovation opium had been given in moderate doses by Stokes, Graves and others, for its anodyne effect. Clark, however, advocated putting the bowels, as he expressed it, in "opium splints" through the medium of full narcotic doses of the drug. According to this eminent authority the criterion for the administration of the drug is the production of the following symptoms: "Subsidence or marked diminution of the pain; some or considerable tendency to sleep; contraction of the pupils; reduction of the breathing to twelve respirations per minute. In the favorable cases a considerable reduction in the frequency of the pulse; a gentle perspiration and itchy state of the skin, or oftener the nose. Absolute inactivity of the bowels, and after a time subsidence of tumescence and tenderness and some suffusion of the eyes."

This treatment was immediately adopted by the majority of progressive physicians as a routine measure, and has, strange to say, for forty years been the main reliance. Reaction against this routinism is but just now attaining prominence. In no other field of medicine has there been a less pronounced spirit of progressiveness during all these years than in the treatment of peritonitis. The ready adoption of the opium method and the implicit reliance which was placed upon it, was probably due to the fact that previous methods of treatment had signally failed, and the new method had at least the merit of saving a certain proportion of cases, and under its use the sufferer from the disease was certainly comfortable. As compared with the success attainable in other acute inflammatory affections, the opium treatment of peritonitis has not proved a brilliant success.

In an excellent article upon peritonitis, Dr. Stiles Kennedy,[1] of St. Louis, Mich., concisely presents the true status of the opium treatment when he says: "Speaking for myself, with thirty years' active practice, I pronounce the treatment a miserable failure. All patients do not die under the opium treatment, but 75 per cent. of them do." With a much shorter period of observation, the brevity of which, however, has perhaps been compensated for in a measure by several years hospital experience, I can heartily endorse Dr. Kennedy's position. Great as was the advance in therapeutics instituted by Dr. Clark, it unfortunately came to be regarded as the *ultima thule* of therapeutics of abdominal inflammations. Who is there here but will bear me out in the assertion that any attempt to classify and differentiate abdominal inflammations with regard to a discriminating selection of therapeutical methods, has usually been regarded as rank heresy,—I was going to say malpractice,—ever since the opium treatment came in vogue? Even those who have discriminated between traumatic and so-called idiopathic cases of peritonitis have failed until quite recently to discriminate in the matter of treatment. Septic cases, in which apparently the principal object to be attained is the draining away of putrid materials both from the abdominal cavity direct and *via* the intestinal canal, have been treated upon the same principles as cases which were apparently of non-septic origin.

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[1] *American Lancet, December, 1889.*

There is a feeling at present among progressive physicians,—and to strengthen this is the principle object of this paper,—that peritonitis is, so to speak, more of a surgical disease in general than it has been regarded heretofore. Speaking for myself, with a keen realization of the hopelessness of the majority of cases when medically treated, and I believe, with a proper appreciation of the origin of the disease in the majority of cases, I feel warranted in the assertion that peritonitis should nearly always—I was going to say invariably—be relegated to the domain of surgery. To put it vulgarly, I might support this position by the assertion that the physician has had an inning of forty years' duration, which, to carry the base-ball phraseology a little further, has resulted in a "goose egg." It is but fair that the surgeon now be given a chance to compare methods at least; as far as experience has gone the results of surgery are certainly more encouraging than those attained by medical treatment. The more thoroughly the pathology of peritonitis is studied the more obvious the truth of this assertion becomes. Like most surgeons, I now see few cases of peritonitis which are *not* distinctly recognized as traumatic. As most cases are supposed to be idiopathic, the surgeon sees comparatively few such. I believe, however, that a proper appreciation of the true pathological and etiological status of the disease on the part of the general practitioner will enable the surgeon to observe and treat such cases more frequently.

The etiology of peritonitis has attracted considerable attention. It has usually been divided into idiopathic (primary and secondary), and traumatic.

I have no hesitation in putting myself upon record as believing that there is no such thing as *primary* idiopathic peritonitis. The more carefully we inquire into the history of the disease the narrower the range of the so-called idiopathic cases becomes. To attribute the disease in the absence of any known organic cause, to exposure to cold, dietary indiscretions, etc., is, it seems to me, simply a substitute for an honest expression of ignorance. That the disease may be secondary to certain constitutional affections is probably correct. It has been attributed to rheumatism,[2] erysipelas,[3] and the various eruptive fevers, especially scarlatina,[4] equinia or glanders,[5] septicæmia, and purulent infection.[6] Its dependence upon puerperal septicæmia, uterine and pelvic inflammations is well known. Anstie describes epidemic infectious peritonitis as being due to sewer gas. Certain chronic constitutional diseases, such as gout, Bright's disease, and tuberculosis are well known causes. Renal disease, as a cause of abdominal inflammation, is mentioned by several excellent authorities.[7]

Traumatic peritonitis is not always easily traced to its cause. There are many cases of course which are readily so traced. A history of injury with palpable lesion, either in the form of penetrating wounds, or such conditions as contusion or rupture of the liver, spleen, stomach, intestines, kidneys, bladder, or womb is most usually elicited.

The relation of cause and effect is sufficiently plain in the case of operative interference with the abdominal cavity or its contents. Certain rough manipulations of the abdomen have been known to produce the disease. Compression of the left ovary in an hysterical woman has been known to produce it.[8] I mention this especially to show how slight a cause is sometimes sufficient.* The dependence of the disease upon minor gynecological operations, intestinal perforation from various causes, such as typhoid fever, typhlitis, perityphlitis, etc., is well recognized.

Although it is supposed that idiopathic peritonitis may occur at any age up to that of 55 years, it is a well recognized fact that "idiopathic cases" are relatively much more frequent in children, the frequency being in inverse proportion to the age.

Children are very often taken with the disease while apparently in a condition of perfect health. This, it seems to me, is in itself inconsistent with the idiopathic theory;—a fact which is significant is that adhesions and pus are an almost invariable result of idiopathic peritonitis. One of the best arguments in favor of surgical interference that I have seen is the näive assertion of Gauderon that recovery sometimes follows the escape of pus through the umbilicus. This mode of termination was noticed by him in eleven cases out of twenty-five, and of these eleven cases there were eight recoveries. It would be interesting to note how many of the remaining fourteen cases recovered, as showing in how far the chances of recovery were directly dependent upon the exit of the pus; *i. e.*, in how far nature's surgery was a hint to the surgeon.

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[2] Vivant, 1884.

[3] Cheurlin, 1879.

[4] Moor. Dublin Journal Medical Sciences, 1876.

[5] Mahomet. Schmidt's Jahrbücher, 1884.

[6] Hilton Fagge. 1873.

[7] Woillez. Bull. de la Soc. Med. des Hôp., 1885. Hilton Fagge. Guy's Hospital Reports, 1873-1875.

[8] Comby. De Bull. de la Soc. Anat., 1880.

* There was possibly, in this instance, tubal disease, the contents of the tube being discharged or its walls ruptured by the manipulation.

It has occurred to me that the reason for the greater apparent frequency of idiopathic peritonitis in children is due to their inability to describe the particular accident to which the inflammation should properly be attributed. Children receive so many bumps and falls that even when well advanced in years they are not likely to attribute any special importance to any particular accident. The peritoneum being more sensitive in children their greater susceptibility to peritonitis from slight injuries is at once obvious.

Leaving secondary peritonitis out of the question, I do not believe in the existence of the idiopathic variety of the disease in young children. It is very easy to injure the peritoneum, especially in young subjects in whom the strength and thickness of the abdominal walls are by no means proportionate to the responsibility of protecting the viscera. Abdominal fat in young children, for example, is not very abundant. The sensitiveness of the abdominal contents in children to various causes of irritation is a well recognized explanation of the excessive mortality rate of childhood. Not only are the viscera relatively more sensitive than in the adult, but the peritoneum is also a *locus minoris resistentiæ*. Injuries which are so slight as to be innocuous to the adult may produce peritonitis in young children. I believe that peritonitis in young children follows very often injuries so slight that the child never complains of them. I am firmly convinced that the so-called idiopathic peritonitis always follows a lesion of greater or less severity. Severe strainings at stool, blows upon the abdomen producing bruising of the intestines, parietal or visceral peritoneum or mesentery may produce it. Comparatively slight violence exerted upon the stomach when full,—and we all know how disproportionately prominent the distended stomach in young children is,—may give rise to peritonitis. Very slight injuries to other viscera and especially the liver, may give rise to the disease. The bruising may be so slight as to leave no trace which is visible post-mortem, and yet be sufficient to light up general peritonitis. A bruise over the distended bladder, or if the bladder be not bruised, a wrench of its peritoneal attachments incidental to a fall, may give rise to the disease.

A point which I desire to again emphasize is the disproportionate size and weight of the abdominal contents in young children, as contrasted with the natural provisions for their protection. As a corollary of this point, I venture the assertion that falls and jars may in children produce concussion of the abdominal contents with resultant strain (with or without slight rupture), of those retentive ligaments which are either derived from or invested by the peritoneum. There is certainly in young children considerable disproportion between the strength of these retentive ligaments and the weight and dimensions of the organs which they are intended to support.

A cause of peritonitis in children, which I believe will in the years to come be more frequently recognized, is inflammatory affections in the region of the cæcum. I believe that typhlitis and perityphlitis, due to enteroliths or other foreign bodies in the vermiform appendix, constitute one of the most frequent causes of so-called idiopathic peritonitis in young children. The reason, it seems to me, that this is not more frequently recognized is the fact that in children the disease runs a very rapid course, has a more pronounced tendency to general extension, and kills the little patient before those tardy evidences of localized inflammation and suppuration are recognized by the physician. How frequently we overlook cases of perityphlitis in the adult, treating them perhaps for typhoid fever or some other disease for days or perhaps weeks before we are enabled to make a positive diagnosis. It is all very well for the surgeon who is called in at the eleventh hour, to criticise the physician for failing to discover the pathognomonic induration in the ileo-cæcal region at an earlier day, but there is a question in my mind whether the surgeon himself in many instances could have done any better. With a full realization of the possibilities of error in the differentiation of typhoid and perityphlitis, I will confess that I have myself remained in doubt for days at a time, in cases in which I afterwards operated. If, then, we make such mistakes in the case of the adult, how much more likely are we to overlook until too late, localized inflammation in the child.

The disease begins abruptly, extends quickly, and within a very few hours perhaps we may have an enormously distended abdomen and all of those physical conditions which absolutely preclude that careful and thorough examination which might insure an accurate diagnosis. Often, in my opinion, the little patient will die of acute general peritonitis which has originated in perityphlitic inflammation long before an adult would perish under the same conditions. The formation of lymph, plastic material, and protective adhesions does not occur in the child because of the rapid extension of the inflammation. The child dies unoperated on, and the case is recorded as another sad illustration of the fatality of idiopathic peritonitis in children. Authorities are united in the opinion that pus is rapidly and almost invariably formed in the peritoneal cavity in children. As already stated, a number of cases of recovery have occurred in which the pus escaped spontaneously. Under such circumstances the chances of life of the patient are entirely dependent upon the caprice of nature. If the pus escapes early enough or burrows in a favorable direction the patient may recover. If nature is unkind, death results.

In a general description of perityphlitis, Drs. E. W. Lee and J. B. Murphy, well known and competent surgeons of Chicago, concisely state the situation as follows: "Are we doing our duty to our patients by allowing them to take such chances? Why should pus in this locality be allowed unaided to find its favorable or unfavorable exit, in contradistinction to the well established rule to properly aid its escape in all other parts of the body where accessible? Who has not seen a similar case to this? The patient is taken suddenly ill, complains of pain in the abdomen; has vomiting, a rapid, feeble pulse, and a pinched, anxious expression of countenance. Examination reveals the abdomen to be uniformly distended and sensitive—in short, with all the symptoms of acute peritonitis, usually terminating fatally on the third or fourth day. *Were we permitted to make autopsies on all of the cases presenting the above history we would find that a large percentage of them were produced by the rupture of a perityphlitic abscess into the peritoneal cavity.*"

I will apply these remarks especially to cases of peritonitis in children, and I believe that I am warranted in asserting that in a large proportion of cases of fatal so called idiopathic peritonitis in children, we would find, were we permitted to make an autopsy, that the disease had originated in perityphlitic inflammation. Rarely perhaps would we find the inflammation to be secondary to an abscess which had ruptured. To present my ideas more concisely, I believe that many cases of peritonitis in children are due to perityphlitic inflammations which are similar to those occurring in the adult, with the exception that in the child they are followed immediately by acute general peritonitis, while in the adult intermediary changes about the cæcum occur. In cases of traumatic origin, the site of the injury might escape observation because of the rapidity with which ecchymosis had disappeared.

Regarding the dependence of peritonitis in children upon slight traumatism, I have in my own limited experience met with a number of cases which were supposed to be idiopathic, but in which careful inquiry elicited a history of slight traumatism. I recall a case at the present moment of a child in the neighborhood, who was not under my care, who died of what a number of competent physicians termed idiopathic peritonitis. My wife, who was interested in the little one, was discussing the case with me one evening, and upon my expressing my belief that the child must have been injured in some way, exclaimed: "Now I remember, the little girl was playing with some of the other children in front of our house a day or so before she was taken sick, and I saw one of the other children push her down. She fell with her stomach across a curb-stone. She got up, cried for a few moments, and then went about her play as if nothing had happened."

The second case, which came under my observation in consultation, was pronounced idiopathic by two competent physicians; but careful inquiry among the playmates of the boy revealed the fact that he had injured himself by jumping from the roof of a shed two days before he came ill. As his mother had forbidden his climbing upon the shed, he had concealed the fact of the injury. This concealment on the part of young children through dread of parental sternness is in my estimation a frequent cause of obscurity in the etiology of peritonitis.

Still a third case. I was called by Dr. G. W. Reynolds, of Chicago, to see a case of peritonitis from some unknown cause, and found a child of 5 years of age already *in extremis*. On inquiry I found that the child had recently been presented with a velocipede from which he had fallen several times. He had hurt himself slightly, but not severely enough to attract attention on the part of his parents.

In this case, as in the preceding, I attributed the peritonitis to concussion of the abdominal contents. I have notes of several other cases of a like character, but will not burden the Section with their recital.

The treatment of acute peritonitis is undergoing a pronounced change. Indeed, the transition from narcotic routinism bids fair to bring the profession to the opposite extreme. The free administration of laxatives, especially those of a saline character, is now being advocated in some quarters quite strenuously. This is going to the opposite extreme with a vengeance. Once again, there seems to be a tendency on the part of the profession toward indiscrimination in the proper selection of cases. Lawson Tait and Greig Smith openly advocate saline cathartics in the treatment of peritonitis of a surgical character. Bantock, however, opposes this. It is not my intention however to discuss the merits and demerits of medical treatment, as my paper is already spinning out to an unwarrantable length.

The surgical treatment of peritonitis is to my mind the most important consideration in connection with this disease. The trite aphorism that "history repeats itself" is well illustrated in the case of peritonitis. Erasistratus and Soranus ages ago several times cut into the peritoneal cavity in the inguinal region to evacuate pus accumulated in the abdomen. From this time, however, until 1735 a period of surgical horror of the abdominal cavity existed, surgeons being afraid to touch the peritoneum.

In 1735 Petit (*fils*) advocated operation for peritonitis. In 1737 he operated upon cases of traumatic peritonitis, with favorable results. He was followed in 1748 by Garengeot. Chomel advised operation to permit the escape of effusion after the subsidence of acute symptoms. In 1846 Guerin advised copious irrigation of the peritoneal cavity with warm water in generalized puerperal peritonitis, suggesting the removal of effused fluid by aspiration and the injection of warm water until the liquid returned clear. He advised an operation at the supervention of meteorism. In 1861 Marten[9] advised the opening of the abdomen with the knife, especially in peritonitis due to pathological perforations. In 1865 Keith[10] operated upon an ovarian cyst in a patient suffering from acute peritonitis; recovery followed. In 1876 Kaiser[11] reported several cases of simple purulent and puerperal peritonitis in which operation proved successful. Puerperal peritonitis has several times been surgically treated with good results. Traumatic peritonitis has frequently been treated by surgical interference since the modern works of Vincent-Bouilly, 1883, and Chavasse, 1885. Prior to 1887 Lawson Tait had already operated upon nearly fifty cases of peritonitis of all kinds. Since that date he has operated upon many others. He says distinctly: "Whenever I find myself in the presence of localized or generalized peritonitis, whatever may be the cause, I open the abdomen and treat the peritoneum according to the indications furnished by actual inspection. Peritonitis is, in abdominal affections, a most powerful indication for surgical interference."

It has been shown that a comparatively slight exploratory incision will often suffice to bring about a favorable result.

In concluding the general history of the surgical treatment of peritonitis, I feel safe in asserting that it is a modern procedure which is rapidly gaining favor all over the world.

I will now discuss briefly what appear to me to be the principal arguments in favor of early operative interference in peritonitis, especially in the grave forms of so-called idiopathic peritonitis in children and in traumatic peritonitis under all circumstances, but more especially where the inflammation is generalized, or has resulted in the local accumulation of pus. An important point in considering the surgical treatment of peritonitis is the analogy of the peritoneal membrane to the pleura, and other serous membranes to synovial structures. Inflammations of these tissues are, as is well known, extremely painful and disproportionately depressant. Much of the pain and depression is incidental to distension of the sensitive membrane by the accumulated products of inflammation. How frequently a slight surgical procedure will secure relief from the most intense agony in such conditions! Puncture of the anterior chamber of the eye in serous iritis; puncture of the tunica vaginalis in cases of epididymitis; incision of the tunica albuginea in orchitis; aspiration of the thoracic cavity in effusive pleurisy, are all familiar illustrations of this surgical principle. Relief of tension is the only measure which in such cases will produce rest. The more intimately associated the affected membrane with the sympathetic nervous system and with the organs of vegetative life, the more severe the agony and the more pronounced the resulting depression. Applying these principles, as we all do, to inflammation of other structures, why should we not apply them to peritonitis? What membrane of the body is more delicate, more sensitive, more important in its physiological functions, more intimately associated with vital organs, more intimately associated with the lymphatic system, and, most important of all, so intimately associated with the sympathetic ganglia, than is the peritoneum? Taking these things into consideration, is there any wonder that inflammation of so fragile a structure produces such a disproportionate degree of vital depression?

Careful clinical observation has shown us that *pari passu* with the development of meteorism and distension of the abdomen by fluid products of inflammation, we have a pronounced increase in the depression of the powers of life. Not only does inflammation of the peritoneum *per se* produce reflex inhibition of the cardiac ganglia, but incidentally to meteorism and effusion there occurs a direct mechanical interference with the action of the heart. Does it not seem, gentlemen, that the first indication in a case of peritonitis is the relief of pressure and incidentally the removal of gas, fluid and foreign bodies?

So profound is the influence of abdominal distension upon cardiac action that we are apt to be misled in our judgment as to the wisdom of an operation. Many cases that seem too far gone to warrant an operation may recover if the depressing effects of tension upon the peritoneum and abdominal organs and the mechanical interference incidental of meteorism are removed by operation. So simple an operation as aspiration of the intestines will often produce an almost immediate relief from pain and a decided and unmistakable improvement in the character of the pulse.

I would like to ask the members of this Section whether there is, in their estimation, any possible objection to operation in cases of peritonitis. The indications for the operation are pain; contraindications are *nil*. Should we hesitate to interfere with the peritoneum, which can under any circumstances be interfered with, providing we can prevent inflammation and sepsis? Should we hesitate, I say, when inflammation is already present and the conditions for sepsis already exist, and when, moreover, the only possible way to avoid sepsis is to remove the products of inflammation, or such foreign materials as may be responsible for the condition present? I do not believe that judicious operation will in any case lessen the prospect of recovery. I believe, further, that delay in most cases impairs the chances of the patient.

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[9] "Surgical Treatment of Peritonitis," Virchow's Archives, 20, p. 530.

[10] Lancet, 1865, vol. xi, p. 36.

[11] Deutsche Arch. f. Klin. Med., 1876, 17, p. 74.

In operating, especially in children, it is best *to be conservative*. It is possible to evacuate purulent and gaseous matters without superadding to the shock of the peritonitis that of an extensive operation. A small exploratory incision, with a flushing out of the peritoneal cavity and a thorough washing of the matted coils of intestine with warm water, either plain, slightly saline, or impregnated with boracic acid, will, in my estimation, relieve tension, favor asepsis, and save life in many cases. While the operation should be done early where practicable, it is my belief that there are few cases in which the operation is not indicated, providing the patient is not already *in articulo mortis*.

Since becoming converted to this view my experience has been limited to a single case, which I will briefly recount.

Case 1.—This was the case of a girl, 7 years of age, who fell against a table, injuring the abdomen slightly. She made very little complaint, and it was not supposed that the injury was of any importance. On the fourth day peritonitis developed and ran a very rapid course. The child, however, was strong and vigorous, and although considerably prostrated the case seemed an exceptionally favorable one for surgical interference. On the third day I proposed operation, which was consented to. I opened the abdomen in the median line by a small exploratory incision 2½ inches in length, punctured the intestine with an exploring needle at all accessible points, and flushed out the abdominal cavity with warm water containing a small amount of boracic acid. I inserted a small drainage tube and stitched the incision about it and dressed the wound antiseptically. The operation of flushing was repeated on three successive days, after which time the drainage tube was removed and the wound allowed to heal, which it did perfectly. Relief from the operation was immediate, and the suffering of the patient was at no time thereafter severe. After the operation a full half ounce of Epsom salts was administered, which resulted in very profuse catharsis. I could see no possible objection to this procedure, and I think that the recovery of the patient was partly attributable to it. It certainly appears to me logical to apply, where possible, the principle of depletion to inflammations of the peritoneum. This is best secured by salines. I do not wish to be understood however as advocating the saline treatment as a routine measure.

In conclusion I will formulate my views of acute peritonitis as follows:

1. I do not believe in the existence of acute idiopathic primary peritonitis.

2. The majority of cases of so-called idiopathic peritonitis in children will be found, upon inquiry, to be traumatic.

3. Slight injuries of the abdominal contents are relatively more dangerous in children than in adults.

4. Acute peritonitis in children, while apparently idiopathic, is often secondary to perityphlitic inflammation, which runs a rapid course and extends to the general peritoneum without the intervention of appreciable local changes.

5. The profound prostration and cardiac inhibition characteristic of peritonitis are in a great measure incidental (1) to tension of the peritoneum produced by inflammatory products, with a consequent reflex inhibition of the heart, and (2) mechanical interference with the heart's action.

6. Surgical interference is indicated in all severe cases of general peritonitis and in cases of localized suppurative inflammation, or in cases of perityphlitic origin, whether due to foreign bodies or not.

7. There is every indication present for operation, and no logical objection to it. The operation is almost invariably palliative, if not curative.

8. Operation in no sense impairs the chances of recovery. *Per contra*, it enhances them to a great degree.

9. No case should be allowed to die without operation, unless already *in articulo mortis*.

10. It is not necessary to make a large incision, excepting in cases in which perityphlitic abscess is known to exist, which is rarely the case in children. If perityphlitic abscess exist and is recognized before operation, the incision should be made at the most favorable point, which in the majority of cases is the typical line for ligation of the common iliac, as pointed out by Murphy and Lee. In by far the majority of cases in children a simple median exploratory incision, with flushing of the abdominal cavity, is sufficient.

NOTE.—The discussion following the reading of this paper suggested to me the possibility of my views being misinterpreted. I do not condemn the judicious use of opium, nor would I recommend operation in all cases of peritonitis. My paper bears directly upon fulminant attacks, and those which, although less acute, are resistant to ordinary measures of treatment.

THE CONTINUOUS SIDE STITCH METHOD FOR WOUNDS OF THE INTESTINE.

Read in the Section of Surgery and Anatomy at the Forty-first Annual Meeting of the American Medical Association, Nashville, Tenn., May, 1890.

BY C. L. LEWIS, M.D.,
FORMERLY HOUSE SURGEON BELLEVUE HOSPITAL, NEW YORK CITY.

During the summer of 1889, while house-surgeon of Bellevue Hospital, I had the opportunity of seeing several cases of penetrating gun-shot wounds of the abdomen, complicated by wounds of the intestine and other viscera. I noticed that the operators always used the interrupted method of closing the wounds of the peritoneum, thus requiring considerable time in placing each stitch, in tying each stitch, and in the subsequent threading required. To that end, you will allow me to state, that I have assisted in a laparo-enterotomy, in which it required the entire attention of an assistant to care for the threading. I have also noticed that nearly, if not all the sutures employed to appose serous surfaces, have the following objections brought against them: 1. That they are interrupted and do not hold the surfaces in close and even apposition. 2. That the tension of each stitch is placed upon the width of a thread, and in consequence liable to cut through the intervening tissues, thereby causing serious results; and 3, but by no means the least objection, that the time required to place them, jeopardizes the life of the patient.

We well know that the crushing and tearing of the various abdominal organs, met with in injuries to the peritoneal cavity is accompanied by profound shock, and that minutes to a man in this state are golden, and must not be wasted. Taking, for the basis of my experimental researches, the faults I have depicted and perfecting each error found therein, I believe I am enabled to place before you to-day a continuous suture which will perform with more perfection and in less time, the results required of other peritoneal sutures. That this suture meets all the requirements necessary, for the inversion of the divided edges of peritoneum; for the close and even apposition of these inverted edges, and for the rapid completion of an operation, which has, until lately, required considerable time, has been accorded me on various occasions. It is continuous and easy to execute. The tension, instead of being made upon the width of a single thread, is made upon tissues of from one-eighth to one-quarter of an inch by means of a side stitch. How much more rational it is to make the tension from a broad stitch instead of the Lembert stitch, can be, and will be shown later. It holds the peritoneal surfaces in close and even apposition, and is adapted to wounds of the hollow abdominal and pelvic organs, such as the intestine stomach, bladder, etc. It is also adapted to the complete resection of the intestine and as our attention has so lately been called to that particular organ and operation, I have performed the resections with excellent results. These will be referred to later. The stitches run along the side of, as well as across the wound, and in its completed state, the peritoneal surfaces, which are inverted, are supported by side pillows of silk, lying in the muscular coat, whilst the exterior shows cross and oblique retention threads. In the suture of any wound, short of a resection, I first fix it with a common Lembert stitch and finish it with the same stitch. In the resection suture, it finishes itself, requiring but one knot.

February 18, 1890, I commenced a series of ten[1] experiments upon the intestines of dogs. All of my operations, but the first, were resections, the first being a suture for a wound, involving two-thirds of the calibre of the gut. These experiments were conducted in the Physiological Laboratory of the College of Physicians and Surgeons, of New York City. My first animal did perfectly well, and a subsequent examination showed a beautiful result with no stenosis or narrowing of the calibræ. My method of performing this operation of resection is as follows: 1. Taking the intestine at point of operation I squeeze its contents into the proximal and distal parts, by a careful stripping between thumb and fore finger on either side of site of operation, now placing them in the hands of an assistant, who also serves to hold the intestine steadily. I now take a pair of scissors and cut out a portion of gut, care being taken that the incision is made at right angles to the long axis of the intestine. Why? For the simple reason that the arteries, furnished by the mesentery, runs around the gut, and not, as many suppose, parallel to its long axis, and in so doing you do not cause excessive hæmorrhage. I rarely tie more than two arteries in a resection, and those two are found at the junction of the divided intestine and its mesentery. Now the intestine is ready for its suture. Threading a round needle with iron dyed silk (small), and having the intestine held, so that corresponding points are in relative position, I apply the continuous side stitch suture, making each stitch from one-fourth to one-eighth of an inch in length, and placing them about one-eighth to one-fourth of an inch from edge of incision. Because of its continuity the suture can be placed rapidly. I may surprise you, when I state that I have sutured a divided intestine in five minutes, and that the animal recovered with a good result. My average operation is done in say seven or eight minutes. What a contrast to the time required in the performance by the Lembert suture.

The drawing shows how simple the suture is.

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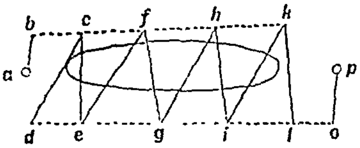
[1] Ten resections, one death.

Commencing at point A we make a simple L stitch; we next enter our needle at point B, and carrying it into the muscular coat, bring it out at point C. We next enter at point D, and in like manner bring it out at point E, opposite point C. In like manner we proceed to the end, drawing each stitch taut, and have them held by a pair of thumb forceps. When the point O is reached, we fix the end by a simple cross stitch. In the resection suture, the L stitches are not required, as you can easily see that points B and O are opposite and can be readily tied.



There are three points to which I would like to direct your attention, viz.: strength, time and facility. *First.* Let us take its strength and discuss it. You will all admit that a thread is more liable to cut through the tissues than a side stitch of one-fourth of an inch, all things being of the same material. I would like to state that experiments have proven that the side stitch suture will stand a strain twice that of the Lembert suture. Resecting two portions of the same intestine and using the same thread. Sutured the one with the Lembert suture and the other with the side stitch suture. My next move was to tie the end of each in succession to a common hand scale, and then to make tension parallel to long axis. The Lembert parted at a point under two and one-half pounds, while the "continuous" parted at four and one-half pounds. The same experiment was repeated with like result. I noticed especially, that the threads in the Lembert cut their way through leaving clean cut incisions, whilst the "continuous" caused a good deal of laceration.

Time.—Your attention is directed to the time saved in using this suture. Naturally, it will take a longer time to appose the ends of a divided intestine by an interrupted suture than by a continuous one. It is my opinion that the importance of the time used in operations, and especially in operations upon the abdominal organs, has been sadly neglected, and the time will come when this most important subject will receive the attention due it. The time *was*, when surgeon, watch in hand, vied with one another in amputation, and the quickest was considered the best. The time *is* when the surgeon, having an over-confidence in his anæsthetic, takes his time, and in many instances, the life of his patient; and the time is (*to come*) when a happy medium will be struck between the reckless haste of our forefathers and the slow and confident manner of to-day. Every time a patient is placed under the influence of an anæsthetic, he is in danger of his life. But how much worse is that poor fellow, who has sustained a wound of the abdominal cavity, apt to succumb to shock through the depressing effect of an anæsthetic combined with the manipulations used in this lengthy operation, your statistics will certainly show.

As I have said, I have done several resections of the intestines of animals within seven minutes from the time of cutting the gut. But I do not mean to convey the idea that a resection of a human intestine could be done in the same time. Perhaps yes, perhaps no. The value of the life of our patient would cry out against any undue haste; but I am convinced from experimental research, that wounds of the intestine, including resection, can be done in a much shorter space of time by using this suture than by any other I know of. The facility with which this suture can be placed can readily be learned from the fact of its being continuous, etc.

Construction.—And now in regard to the subsequent narrowing of the calibre by the inverted edges. Say we place our side stitches one-eighth to one-fourth of an inch from the edge of wound, on drawing the suture taut, a ring of the intestine will be inverted corresponding and varying with the distance of the side stitches from edge of wound, for the side stitches are approximated. These two rings of gut inside the intestinal canal are approximated by silk rings, lying in the muscular wall of the gut, and therefore antiseptic. The silk rings are held together by the cross and oblique retention threads, thus giving you a miniature Abbe ring, which has the advantage of being antiseptic and in not perforating the walls of the intestine. The tighter you draw your stitches the closer the side pillows are approximated, and the greater the pressure against the peritoneal and muscular coats, now in course of resolution. This intra-enteric ring of gut is thrown off in part and cicatrization takes place in the mucous coat. I have specimens which require close examination to detect site of operation, both exteriorly and interiorly. That there is some narrowing of the lumen I grant, but I do not believe there is a tendency to obstruction and stenosis.

In summing up the points of superiority I have claimed for this suture and this method of resection, I have this to say, Iwould have no scruples in using it in the human abdomen, that I believe its strength has been fully proven; that its efficiency has been demonstrated, and that its ease of execution has been tested and found superior. The fact of it combining the points of superiority in strength of its ease in execution and of the rapidity with which it can be applied, I am sure, will the more commend it to your judgment when it has been successfully applied by yourselves.

When I commenced my operations, I applied an elaborate dressing to the wounds of the animals, but my experience shortly showed me, that a simple covering of iodoform collodion sufficed. In regard to the resection of a corresponding triangular piece of mesentery, I will state for your edification, that the only animal that did badly, was the one in which I cut this piece of mesentery. I do not believe that an intestine will become gangrenous simply because it has not been divided, exactly at right angles to the long axis, but I do believe, that this erroneous opinion has been formed from cases of gangrene, caused by a resection, in which the blood supply has been materially lessened by taking out a part of the mesentery.

THE USE OF POWDERED JEQUIRITY IN CERTAIN AFFECTIONS OF THE EYE.

Read in the Section of [illegible] *first Annual Meeting of the Amer* [illegible] *Nashville,*

BY W. CHEATHAM, M.D.,
LECTURER ON DISEASES OF THE EYE, EAR, THROAT AND NOSE, MEDICAL DEPARTMENT, UNIVERSITY OF LOUISVILLE.

When the use of jequirity was first brought to the attention of the medical profession, it was, like most good remedies, much abused. I think, though, that the pendulum has now swung too far the other way, since several articles on the subject of its dangers to the cornea, etc., have appeared. Consequently I think it has not yet taken its proper place as a remedy for pannus, with or without trachoma, or papillary hypertrophy.

I have used jequirity in many of those conditions advised against by most men who have written on the subject. I do not use the infusion for several reasons, of which I will speak directly; but I use instead an impalpable powder prepared by Mr. J. A. Flexner, a pharmacist of Louisville, Ky. This powder I have had sent to all points of the compass, and have never received anything but the best results from its use.

Why should the powdered jequirity be better than the infusion? I believe that the powder can if placed in a dry place be kept indefinitely, whereas infusions, as we know, change rapidly. The action of the infusion cannot be confined; it will pass even into the tear duct and down into the nose, while the powder produces the false membrane only where you apply it. Indeed you can, by applying the powder carefully, confine its action to a spot as small as a pin head; and then the action of the powder is, I think, much more thorough than that of the infusion.

If jequirity does produce corneal ulceration (which I doubt, for how few cases of severe trachoma but that have ulcerative keratitis, cases in which jequirity has not been used), the powder is less liable to do this than the infusion.

Some of these statements may appear a little strange, yet they are the result of much experience, and what I ask is that those who have not used the powder give it a trial before commenting upon them.

Again, I have used the powdered jequirity in one or two cases in which there was extensive muco-purulent secretion, with success.

The cases in which I have used this remedy, a few of which I will now report, are not picked ones. They are, moreover, cases in which all other treatment except inoculation of gonorrhœal secretion, or conjunctival circumcision, had been tried.

The fact is I know of no condition, in which there is pannus, unless it be a large slough of cornea, with or without prolapse of iris, in which I would hesitate to use the pulverized jequirity, providing the usual remedies had failed.

Mr. D., extensive opacities of cornea with pannus: V. R. = $\frac{2}{200}$, V. L. = $\frac{16}{200}$, time of treatment two and one half months, results, V. R. = $\frac{16}{200}$, V. L. = $\frac{18}{200}$.

Chas. M., extensive opacities of cornea: V. R. = $\frac{2}{200}$, V. L = $\frac{3}{200}$. Time of treatment two months, result, V. R. = $\frac{16}{200}$, V. L. = $\frac{16}{200}$.

Belle McG., V. = perception of light: After five applications, V. = $\frac{12}{200}$.

Sylvester D., V. R. = perception of light, V. L. = $\frac{2}{200}$. Five applications. V. R. = $\frac{20}{40}$, V. L. = $\frac{20}{40}$.

Thos. C., V. from $\frac{2}{200}$ to $\frac{20}{100}$ one eye, and $\frac{20}{200}$ the other.

Mrs. K., V. = perception of light. She writes now that she can see as well as she ever could.

I saw at the meeting of our State Medical Society last week a physician who had to be led to my office, and on whose lids I had used the powdered jequirity. He stated that vision was now perfect.

The reaction which follows the use of the powdered jequirity sets in from two to four hours after its application; the pain, as you know, is very great; for this I use nothing if it can possibly be stood; if not, hot carbolized water, or hot water with boric acid in it, soon allays it.

I have had people who were led into the office blind, come by themselves in four or five days after the use of the jequirity. I have so little fear of it, that in a certain neighborhood in my State where there is a great deal of trachoma with pannus, a patient from there who had been relieved by its use, took some of the powder home with him, and used it in the eyes of many of his poor neighbors, with none but the happiest results. Of course, pulverized jequirity is not a "cure-all," but there are many cases of so-called hopeless blindness from pannus in this country in which all other remedies have failed, which I believe can be given useful vision by the use of jequirity. Indeed, I believe many of these cases have not been relieved because the physician has read of the dangers of the infusion of jequirity and has not heard of the powder, which, as I have before stated, I believe is free from danger.

This fear is the only apology I have to offer for reading a paper on this old and much written of subject, before this Section of the American Medical Association.

A DANGER IN THE USE OF JEQUIRITY HERETOFORE UNMENTIONED.

Read in the Section of Ophthalmology, at the Forty-first Annual Meeting of the American Medical Association, at Nashville, Tenn., May, 1890.

BY T. E. MURRELL, M.D.,

OF LITTLE ROCK, ARK.

I was one of the first to combat Sattler's theory of the bacterial origin of jequiritic conjunctivitis. I was making experiments with the bean, clinically and microscopically, about the time this theory was promulgated, and I had reasons for non-concurring. They were: First, the fresh infusion of jequirity was found to be more powerful than the old, and no bacteria could ever be found in the fresh infusion; second, in old infusions of the other leguminosæ similar bacteria were discovered, and in greater numbers than in the jequiritic infusion, and yet they were without effect on the conjunctiva. It is now well agreed that the peculiar property of jequirity resides in the bean and is not derived from any other source. Strange to say, however, this principle has never been isolated by the chemist. The infusion being perfectly bland, only possessing in a marked degree the narcotic odor belonging to the leguminosæ, it is a singular phenomenon that such striking changes should be produced in the vital functions of a mucous membrane by its topical application. Its tendency to clear out infiltrations and to dissolve adventitious structures renders it a remedy of great value in certain conditions of the eye.

While much difference of opinion exists as to its real merit as a therapeutic agent, and as to its proper field of usefulness, there can be no question as to its marked beneficial effect in some cases. We possess nothing superior for clearing corneæ densely opaque from inveterate pannus. A remedy so powerful is reasonably not without danger. Extensive posterior synechiæ have been discovered after clearing the cornea by its use, thus showing the danger to which the iris is exposed by its action; hence it is well to always guard against this accident by the free use of atropine so long as the artificially produced conjunctivitis continues. Ulceration of the cornea has also followed its action in improperly selected cases, but with reasonable care and judgment this danger can be reduced to a minimum.

Those who deal much with long standing and badly treated cases of granular conjunctivitis will now and then find one suitable for the application of jequirity. As ophthalmic surgeon to the Arkansas School for the Blind I meet some such cases annually, and the results, I would also say parenthetically, are sometimes most gratifying.

As is well known, collyria dropped in the eyes often run through the tear passages and are tasted in the mouth. It occurred to me that the use of the infusion of jequirity in the eye might, by entering the lachrymal sac and nasal duct, excite similar inflammation in these parts, or in the nose even, as in the eye.

Such apprehensions have within the last year been fulfilled in three instances; two of them occurring in a young lady, involving the tear passages of both eyes, and the other in a young man in whom only the right tear passages were so affected. In each case the jequirity was used in a 2 per cent. infusion repeatedly dropped in the eyes with a pipette until severe inflammation ensued, which was then allowed to run its course unmolested. Each of these patients was carried through a second course of the jequirity treatment, and some time after recovering from the last course of treatment I found the young lady had a dacryocystitis of both lachrymal sacs, and the young man of the right sac only. Delaying in operating to overcome the strictures in the nasal ducts, acute phlegmon developed in the left sac of the young lady and in the right sac of the young man. The cases were treated in the usual way, the phlegmons opened externally, and when the swelling had sufficiently subsided the canaliculi were opened and afterwards the strictures overcome by the use of Bowman's probes, and the cases finally cured. There had never been any symptoms of trouble with the tear passages prior to the use of the jequirity, and neither case had nasal trouble; hence the inference is clear that we here had jequiritic inflammation of the mucous membrane lining the lachrymal sac and nasal duct, leading to stricture of the latter with its usual sequelæ.

DR. FROTHINGHAM said: I have been much interested in the paper and the discussion which it has elicited. I have no personal experience with the use of jequirity, and for that reason am, perhaps, more interested in hearing the experience of others. I was deterred from the use of this remedy by the disastrous effects that I saw reported by competent and reliable men soon after its introduction. To cite a single example, we may recall the published experience of Dr. Knapp of New York. Following as near as possible the rules for its use as originally given by De Wecker, he had unpleasant results. He then wrote Dr. De Wecker for an exact description of the class of cases in which it was useful, and to direct *just* how it should be used. De Wecker gave him explicit directions for its use. Dr. Knapp used it in accordance with these directions. As a result he very nearly lost both eyes of a patient he thus treated, and that, too, in his own hospital, where the patient was under his direct observation and control. I have seen more patients that have been injured by jequirity than I have seen benefited by its use, notwithstanding occasional brilliant results may be obtained through its action. One distressing case came to my notice. The case was that of the wife of a wealthy ranchman in Nevada. She had trachoma, but could see quite well with either eye. An Eastern oculist became the guest of her husband while on a Western tour. He treated her during his visit, and on his return home sent some jequirity with full directions for its use. It excited a severe inflammation, and both eyes were lost by panophthalmitis. She consulted first an oculist at Salt Lake City, and then came to me. Her case was that of hopeless blindness. It is this excessive inflammatory reaction, reported from its early use, that deterred me from resorting to it in practice. I felt that a remedy must be unsafe, and occasionally uncontrollable, which in a few hours after its application would cause the lids to be so swollen as to completely close the eyes, produce intense constitutional reaction, with a temperature sometimes reaching 104°. I have thought it prudent to wait until rules could be formulated for its use so that any practitioner could apply it with confidence. I am always suspicious of a remedy which, though some may use with uniform success, others, though faithfully following directions, cannot use without frequent disasters. As yet I have seen no sufficient evidence to establish the claim of jequirity as a safe remedy, and I regard its application as limited to a few peculiar cases of extreme pannus in which other and safer remedies have failed to afford relief.

DR. X. C. SCOTT, of Ohio, said: I am surprised at the remarks of my good friend from Michigan (Dr. Frothingham), for his experience is exactly opposite to mine. In a large number of cases the results have been most satisfactory. In only two cases has there been slight ulceration of the cornea, and these two cases were cured without leaving any trace of opacity behind. Jequirity is one of the greatest boons to patients suffering from trachoma with pannus, for with this remedy these cases can be cured by from one-fourth to one-third of the time required by the former and usual mode of treatment. The plan of treatment seems much preferable to the stumpy tooth brush recommended by the gentleman from Tennessee (Dr. Savage). In the treatment of these cases I have used an infusion of the bean to which has been added some boracic acid. It should not be trusted in the hands of the patients to use, but should be applied by the surgeon himself. With the proper employment of jequirity cases of pannus can be cured that cannot be helped by any other method. After the acute inflammatory symptoms have disappeared I assist the good effects obtained from jequirity by continuing a mild astringent until the cure is completed.

DR. FRANK TRESTER SMITH, of Chattanooga, suggested that in the use of new remedies cases be taken where the condition is nearly the same in both eyes, and that the remedy be used in one eye and standard remedies be used in the other; then we would have something on which to base conclusions. He had observed the cases of Knapp and was perhaps prejudiced against jequirity, and thought that a remedy that had produced so much damage should be used only by those well qualified to treat all cases of eye disease. It certainly should not be used by the general practitioner.

DR. MINNEY: Is your success so much greater, Drs. Cheatham and Scott, since your use of jequirity, than in the same class of cases in your practice before its use?

DR. MURRELL: Dr. Mittendorf used powdered jequirity seven or eight years ago in proof of the power residing in the bean and not due to bacteria in the infusion. Iritis unquestionably follows its use. Never had iritis when he used atropine at the same time.

DR. FULTON said: With such a dangerous remedy as jequirity it is not safe to permit the patient to use it except under observation of an oculist. That the most brilliant results he had ever experienced in ophthalmology had been produced by the judicious application of this remedy. It should never be applied when there is any mucous or muco-purulent discharge.

DR. SAVAGE said: On the papers read by Drs. Cheatham and Murrell I want to speak of a plan of treatment which may be resorted to at a time when none of us would dare use jequirity, viz.: when there is no pannus. But whether the trachomatous condition is recent or old the conjunctiva may be cocainized and the brush treatment applied. I follow the Roumanian plan of preparing the brush. I buy an ordinary tooth brush of good quality and cut the bristles at the end of the brush to the length of one-eighth of an inch. With these short bristles I plow out the trachomatous bodies and smooth down the enlarged papilla. Very simple after-treatment is needed. This plan is far superior to either the use of jequirity, sulphate of copper or nitrate of silver. My experience with the brush, however, covers only twelve or fifteen cases.

DR. TILLEY, of Chicago, said he was glad that Dr. Cheatham brought forward the subject of trachoma, as he thought that jequirity was an abused remedy. He had never seen powder so well prepared as the sample presented. Relative to the statement of Dr. Murrell that the active principle of the jequirity bean had never been isolated, this was a mistake—that according to his recollection it was reported in *Merck's Bulletin;* also that Samuelson, of Copenhagen, had isolated it in his preparations for a paper before the International Medical Congress at Copenhagen.

Dr. J. H. Thompson said: If pannus is dependent upon the deposit of inflammatory material in the substance of the cornea under Bowman's membrane, I cannot see how jequirity inflammation can clear up totally that membrane. Pannus will very frequently clear up under copper, even when there is no progressive disease on the lids (cicatricial transformation). The drug is excellent to alter the elements of an inflammation of the conjunctiva (chronic blenorrhœa, trachoma) so that the usual remedies may be efficient, when before neither nitrate of silver or copper would have any effect.

In answer to questions asked Dr Cheatham said: The inflammation resulting from the use of jequirity powder is controllable by means of hot carbolized water baths. By their use the inflammation can be checked in a short time. Success from the use of jequirity powder in pannus is better than from other treatment, as it is more rapid; it cures cases in which all other treatment has failed; many cases have been cured by its use which would have been blind all their lives but for it. I make a second application if needed, as soon as all reaction from the first has subsided.

Dr. Wm. Dickinson, of St. Louis, inquired the mode of preparation of the specimen of powdered jequirity presented, and was told to pulverize the bean and sift it several times. He went on to say that he had used jequirity with most excellent results; in no cases had he experienced ill consequences.

Dr. Pollak, of St. Louis, in about 150 successive cases several years since, reported that in only one case did serious results follow. It is a most potent agent and is by no means to be employed by laymen nor by any one who is not well informed in its use. He makes an aqueous solution, and after twenty-four hours this is strained or filtered and used intelligently by the ophthalmic surgeon himself.

Dr. A. R. Baker, of Cleveland, O., said: As this seems to be an experience meeting I wish to put my experience in the use of jequirity on record. Soon after the introduction of this remedy I met a case of granular lids with pannus. I brushed the lid with jequirity, which resulted in a violent panophthalmitis, and notwithstanding the use of hot water the eye went on to complete destruction. This unfortunate experience has caused me to use the remedy with great care. Yet I have had good results from its use in some cases. One of the most satisfactory was that of a physician who contracted a granular ophthalmia resulting in a dense pannus. In four years he was obliged to give up his practice and spent much time and money, even going abroad for treatment without the least benefit. But since using jequirity he has been able to resume his practice, and enjoys very good vision.

MEDICAL PROGRESS.

The Influence of Menstruation on Lactation.—The question whether a menstruating mother should continue to nurse her child, has been answered differently by many writers; some say it alters the quantity of milk, others the quality, and still others both quantity and quality. N. Davis, Vernois and Becquerel and Emil Pfeiffer alone have considered this matter scientifically. Schlichter (*Wien. Klin. Wochenschr.*, ii, 51, 52, 1889; iii, 4-5, 1890), has attempted to add some needed observations in this direction. The analysis of the milk, which consisted of the determination of the fat, casein, total albumen, and total solids, gave in the milk of nine mothers no difference in the quality when menstruating; indeed the differences were less than normally occurred at different periods of the same day.

The children of fifty nursing mothers, who menstruated within two and one-half months of their confinement, were examined as to their weight and general condition, and no material change was found during, or just after the period of menstruation. The author sets forth the results of his observations, as follows: That after the sixth week, menstruation does no harm to to mother or child. Before the sixth week, hæmorrhage or menstruation retards the growth of the child. An outbreak of colic, dyspepsia, or enteritis during menstruation, is to be regarded as a mere coincidence and should not be treated by changing the nurse, but by the usual methods.

The Diagnostic and Prognostic Value of Urobilinuria.—Hayem (*Gaz. Hebd.*, xxxvi) claims the same diagnostic value for urinalysis in diseases of the liver as in diseases of the kidney. While in the latter case we are on the look out for albuminuric acid, etc., in the other the coloring matters are the ones to be considered. As no urobilin is found in the urine of healthy animals, Hayem concludes that urobilinuria always means a disturbance of the liver. That the condition is so frequently found is due to improper diet and the use of alcohol. The degree of urobilinuria is an index of the gravity of the liver changes. While with light drinkers the quantity of urobilin is small and may completely disappear from the urine, in those of persistent free urobilinuria, with a history of alcoholic excesses, we certainly have to do with a cirrhotic liver. The importance of this symptom is apparent when we think that it occurs early, long before other signs appear.

Treatment of Chronic Gonorrhœa.—Fleiner (*München Med. Wochenschr.*, xxxvi, 1889) recommends the following modifications of Unna's ointment sounds: The salve composed of ℞ Argenti nitratis, 1.0:5.0; ceræ floræ, 10.0; ol. theobromatis, 100.0, is melted and poured into small moulds made of wax paper or parchment. The steel sound is then heated and passed through the cooling wax. The author claims that this method is both cleanly and convenient. This treatment is only suitable for those cases with little secretion. On the average four to six soundings are sufficient, though in some cases ten or more may be necessary. At least five days should elapse between each sounding, as the treatment causes some irritation. Of forty-one patients treated twenty-eight recovered, eleven greatly improved, and two gave up treatment. In connection with this treatment the author used disinfecting astringent and caustic lotions. In closing, he says that while this combination treatment is useful, it is not all powerful, and occasionally cases will present themselves that resist any and all treatment.

ENCEPHALOCELE.—In the *Revue de Chirurgie* for April, 1890, PAUL BERGER describes two very interesting cases of hernia cerebri, of congenital origin. In one case the tumor, which measured 20 centimetres, was successfully removed, and found to consist of integument, subcutaneous tissue, and within that gelatiniform tissue resembling the pia mater and arachnoid. The inner layer presented irregularly distributed nerve elements, mostly fibres. Recovery was rapid, the operation not causing any special disturbance of the health.

The second case was from the practice of M. Périer and was communicated to the Académie de Médecine on the 2d of April, 1890, but not published. The tumor in this case also covered the occiput, pedunculated, and was removed by ligating the cyst, excision, suturing and a simple salol dressing (without drainage). The child lost considerable blood during the operation, but made a quick recovery. An examination of the tumor showed on its inner surface nerve cells and fibres. Cerebellar tissue could be determined by the presence of the corpuscles of Purkinje.

The author presents a valuable *résumé* of the literature regarding the nature, origin and development of these tumors.

AN AUTOPSY IN A CASE OF TRAUMATIC NEUROSIS.—The vexed question of the pathology of spinal concussion has recently had some light thrown upon it by BERNHARDT and KRONTHAL (*Neurol. Centr.-Bl.*, ix, 1890). A coachman 31 years old hanged himself, who for the previous two years had suffered from a traumatic neurosis, caused by a kick in the epigastrium. The microscopic examination of the spinal cord (alone permitted) showed, throughout the white substance, patches which stained deeper and were richer in neuroglia than the surrounding tissue. The blood vessels of the cord were thickened. From the fact that in a previous case of Kronthal's identical changes were found, they are inclined to attribute great importance to these appearances.

THE PHARMACOLOGY OF ACONITE.—DR. WILLIAM MURRELL, of London, considers commercial aconitine as an uncertain substance from a pharmacological as well as a therapeutical standpoint. In reality, he says, we do not know whether our aconitine is aconitine proper or pseudoaconitine, or japaconitine, or a mixture of all three. English aconite, so called, is at least seventeen times as active as the German, the French being intermediate in strength; but this classification into English, French and German is clearly unreliable and unscientific. It would seem that the use of aconitine is attended with considerable danger, several cases of poisoning have been reported simply from using a stronger aconitine than the prescriber intended. One case, which terminated fatally, happened because the physician was under the impression that the French and German aconitines were identical. Fleming's tincture of aconite root is as poisonous as prussic acid taken drop by drop. The U. S. P. tincture of aconite root is half the strength of Fleming's tincture, and the B. P. tincture is only one-sixth as active as the latter. Murrell prefers to administer aconite by dropping half a drachm of the English tincture into four ounces of water; administering a teaspoonful every quarter of an hour for one hour, and subsequently every hour for six hours, or until the acute symptoms have subsided. He also uses tabloids or triturates in a similar manner. Aconite especially affects the heart—first its ganglia, then its nerves, and lastly its muscular substance. It may also act upon the vagus roots in the medulla. It lowers arterial pressure by depressing the heart's action; it does not affect the vasomotor center or nerves. Aconite is a protoplasmic poison, lowering the action of all nitrogenous tissues; first, of the central nervous system; next, of the nerves; and finally of the muscles. It has a special affinity for the sensory nerves, which is best shown by topical use of the agent in neuralgia.—*The Medical Bulletin.*

ELECTRICITY IN INFLUENZA.—DR. J. WORTHINGTON, in a communication to the *British Medical Journal*, says: "I wish to place on record the very marked benefit derived by my patients by the use of electricity in the neuralgic and rheumatic forms of the affection. In some cases the relief has been immediate and permanent; the pains in the back, groin and sternum, which people have complained of so much, and which have become more or less chronic and defied treatment, have yielded at once to thirty or forty cells of Leclanché's battery."

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SATURDAY, JUNE 28, 1890.

THE MUTUAL RELATIONS OF GENERAL AND MEDICAL EDUCATION.

Under this head THE JOURNAL last week invited attention to the complaints that have been made from time to time concerning the length of time required for young persons to complete the usual college course for the degree of Bachelor of Arts, and then supplement it by from two to four years of professional study. Allusions were also made to the disposition manifested in some quarters to reduce the length of such college courses from four to three years, while on the other hand, there was a strong disposition in professional circles to demand an addition of one or two years to the time of professional study.

Assuming, as was then stated, that young men should be able to complete both their general and professional education so far as to be ready to enter upon the active duties of their chosen life-work at the age of twenty-three or twenty-four years, it is plain that the curriculum of studies in the preparatory and collegiate courses for the degree of B. A. should be so adjusted that the average student can complete it at the age of twenty years; and in doing so shall have acquired a good degree of mental discipline, and so much knowledge of the origin and uses of language, of mental and moral philosophy, of physics and the natural sciences, and of history and literature, as will constitute a good basis from which to take his departure into any of the non-professional avocations of life; and an equally good basis for commencing the study of any recognized profession.

One of the chief defects of the present preparatory and collegiate courses, is the disproportionate amount of time devoted to the study of the Greek and Latin languages, to the exclusion of other branches of science of more interest and practical utility. These classical languages enter so largely into the composition of those most used by modern nations, that at least, an elementary study of them should constitute a part of every course of liberal education. It is not their exclusion that is desired, but their proper limitation as to the time they shall receive in comparison with that devoted to other branches of knowledge. The time required for obtaining sufficient knowledge of the different branches of medicine to justify the commencement of the active duties of the profession, depends so much on the mental discipline and amount of knowledge previously acquired by the student, that no arbitrary rule can be maintained without doing injustice to many. The average student who has passed through the course of preparatory and collegiate training usually required for the degree of Bachelor of Arts, science or philosophy, if such course has included a good degree of training in physics, chemistry and biology, can enter a medical college with a properly graded curriculum, annual college terms from six to nine months, laboratories for practical work, and hospital facilities for clinical instruction, and can qualify himself fairly well for commencing the active duties of his profession in three years.

But if physics, chemistry and biology have been practically omitted from his previous courses of instruction, or if he comes to the medical college with only the training received in the common or public school, aided perhaps by one, two, or three years in a high school or academy, he cannot qualify himself to enter upon the ordinary duties of the practitioner with justice to himself or to his patients, in less than four years. Therefore, the time required for the study of medicine, instead of being arbitrarily the same for all medical students, should be so far flexible as to adjust itself in some degree to the previous attainments of the student.

The General Medical Council of Great Britain has had this subject under thorough and protracted discussion very recently,[1] and has very judiciously recommended that the time medical students should spend in some recognized school of medicine should be four years; and a fifth year should be spent in clinical work in a hospital or dispensary or with a recognized practitioner. It was further recommended, however, that the student might spend the *first* of the four years required, at any recognized institution for teaching physics, chemistry and biology; and that any graduate in arts or science, who had given proof of having studied these branches, and of having been examined in them for his degree, should be held to have completed the first year of his medical studies. These recommendations of the General Medical Council regarding the four years of medical college study are eminently just and proper. They give the needed encouragement to more thorough scientific training before commencing the technical study of medicine by giving those who bring to the medical college such training, a gain of one year in time, while those who do not, must gain it in part at least, by devoting the first of the four years to that purpose. A year or two since the Illinois State Board of Health gave formal notice by resolution that after the college term of 1890-91, only such medical colleges would be recognized as in good standing, as should require of the medical student *four* years of study including *three* annual courses of college instruction of not less than six months each. The Board specified no branches of study that the student should take during the first of the four years, neither is he required to be in attendance in any college during that year, and consequently there is no practicable mode of enforcing the requirement or determining whether the student studies medicine an hour a day during that year or not. Any young man or woman can buy or borrow one or two medical books and get some practitioner to certify that he or she commenced to study medicine at a given date, and at the end of the year take the certificate to a medical college and enter as a second year student. It is plain that the Illinois State Board should either adopt substantially the recommendations of the General Medical Council of Great Britain regarding the first of the four years of medical study as stated above, or else repeal their resolution for four years, and be content to enforce more rigidly the present requirement of three years of study and three regular annual courses of medical college instruction of not less than six months each, etc., until the colleges in all parts of the country are brought up, at least, to that standard.

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[1] See British Medical Journal, June 7, 1890.

CONCLUSION OF THE FOURTEENTH VOLUME.

With this number we reach the conclusion of seven years, in the history of THE JOURNAL.

We think it is no longer a question with any of our readers but that the decision reached seven years ago, to issue the Transactions of the Association in the form of a weekly journal, was timely and wise.

Its success at the first was involved in much uncertainty. Had there been a failure at any point to command the confidence of either the Association or of a generous advertising public, its experiment must surely have ended in failure. Happily a discriminating and eminently conservative Board of Trustees had as their associate an Editor-in-Chief eminent for executive ability and skilled in the department of medical journalism.

In the development of this new enterprise the management of THE JOURNAL could afford to make no mistakes, and so, at the risk of being considered excessively conservative, the Trustees have preferred to move steadily on, assured at each step, that what was proposed could surely be accomplished and that come what would there must be no financial embarrassment. Thus far their efforts have been eminently successful, and never during its history, has it failed to meet every demand at sight. At the conclusion of six years the editorial supervision of THE JOURNAL, at the earnest demand of the former Editor-in-Chief was fully assumed by the Board of Trustees, and was specially committed to the care of the Committee on Management of THE JOURNAL.

Their work during the past year was so far endorsed at Nashville, that the same general oversight and the same special labors are continued.

It will be seen by reference to the list of editorial writers to be found elsewhere in this number, that THE JOURNAL is widely representative of editorial work in this country, and it is the purpose of the Trustees that in this direction the power and value of THE JOURNAL shall be constantly increased.

A few words are due in conclusion as to the publication of original papers presented at the annual meetings. Obviously they cannot all be published at once, else we must return to the old method of issuing them in book form, a method which after thirty-four years of faithful trial we were glad to abandon.

Nor does it seem to us wise to employ temporarily a large printing force, and to increase THE JOURNAL for a limited period of time to unwonted proportions, and then to so diminish its size as to bring the annual cost within the necessary limits of expenditure.

We are not to forget that a growing constituency of subscribers who are not members of the Association has selected this as their medical journal and a uniformity, not only in size, but a widely and wisely selected medical literature, must be associated with every number of THE JOURNAL to render to them the returns which they have a right to expect. But in order to facilitate the publication of the regular papers, we are happy to announce that with the next issue, the first of a new volume, the condition of the finances is such, that the Trustees feel warranted in making an addition of four pages each week to this particular department. This will not only facilitate the publication of the Association papers, but it will so relieve the pressure upon the columns of THE JOURNAL as to permit the appearance of many valuable articles from other sources, such as in times past we have been obliged, with great regret, to decline.

With thanks to the members of the Association for their very uniform interest in its welfare, and for the courtesies so generously accorded by the medical press of the country, we have to express the earnest conviction that THE JOURNAL is more and more to develop in value, and more and more successfully to subserve the interests of our noble profession.

EDITORIAL NOTES.

WHY SHOULD NOT LADIES TAKE TO PHARMACY.—A daily journal has recently pointed out that pharmacy is now quite open to persons of the female sex, and suggests, what is certainly true, that it is a calling for which their neat touch and delicacy would seem peculiarly to suit them. For a long time there were difficulties in the way, but these have now been overcome, and there is no reason why lady chemists should not commence business, under the patronage—if they can secure it—of the lady doctors.

Quoting the above from the London *Lancet* as applicable to ladies in England, we are led to inquire why the habit has not long ago obtained in this country, and why ladies are not generally employed in this important industry. It cannot surely be said of them that they cannot become competent. In fact we doubt if there be another such field for them, as promising of success as that of pharmacy. They certainly can as quickly and as perfectly command the requisite knowledge, and their deft hands can as accurately combine and as neatly dispense medicines as can the most skilful of gentlemen druggists. We think that our Colleges of Pharmacy should accord to the ladies equal facilities for the attainment of pharmaceutical knowledge, and we believe that it will fall specially within the province of skilled female labor to dispense medicines. We are at a loss to know why a field so inviting has been so long unoccupied by ladies who are seeking to earn by honorable and honest effort a competent livelihood.

SANITATION OF THE CAMPAGNA.—It is reported by cablegram that a syndicate of German capitalists, having $10,000,000 at command, has made overtures to the Italian government to reclaim the Campagna di Roma, on scientific sanitary principles. At present the district is a pestilential and desolate plain, a detriment to the progress of the city, and a standing menace to the health of all who are compelled to visit or reside temporarily in that region; even the hardy peasants are not exempt from the malarial fevers that have their origin in the Pontine Marshes. This district was once well populated and cultivated, and it is thought that by the introduction of modern engineering methods of drainage and irrigation, the Campagna can again be made to blossom as the rose. If that should be done, and Rome again becomes a healthful city, it may in the end, and before many years, become a favorite health resort for winter tourists.

AN "OLDEST" GRADUATE.—Dr. James Tyson writes to the *Medical News*, June 7, that the oldest living graduate of the University of Pennsylvania is Dr. Enoch Fithian, of the class of 1816; he resides at Greenwich, New Jersey. He is probably the senior alumnus of the whole country.

THE MEDIZINISCHE REVUE.—A new fortnightly journal, named as above, is announced to appear at Vienna, under editorial charge of Dr. Adolf Kálay, of Carlsbad. This journal will be the organ of the balneologists and hydrotherapeutists of Germany and the continent. Professors Renator, Leibreich, Eulenburg, Magnus, Nathan, Sossbach, and Winternitz, and Drs. Ott, Hoffmann, Schott and Frey will assist with their contributions from the various health resorts and clinics.

THE SANITARIUM AT GOERBERSDORF.—Dr. Felix Wolff, of Hamburg, will succeed to the management of the Goerbersdorf hospital for diseases of the lungs, in the place of the late Dr. Brehmer, who founded that institution about thirty years ago. Dr. Wolff has been an assistant to Professor Curschmann at the great Hamburg Hospital.

A PHARMACY OF TWO DRUGS.—At one period of the grand march of Stanley's Relief Expedition across Africa, the medical supplies of Surgeon Parke ran very low. He had just two remedies left, namely: pure carbolic acid and permanganate of potash. "Nevertheless," says Stanley, "there were some wonderful recoveries during the halt of Stair's column on the Ituri River in January." Whenever there was a halt, the hardest worked man in the expedition was the surgeon. He not infrequently had a hundred patients daily. There were all kinds of complaints, but the most numerous and most troublesome were the ulcers, and his two antiseptic remedies must have stood him in good stead; for within the period of one month, in camp, he brought the effective strength up from 200 to 280 able-bodied men. Stanley says of his "unrivalled surgeon," Parke, that he loved all his cases, and to him they were all "interesting," despite the odors emitted and the unsightliness of the injured parts or persons. We are glad to note that at the testimonial banquet given to Dr. Parke by the Royal College of Surgeons in Ireland on May 31, he was presented with the Honorary Fellowship of that College; this honor has been granted only forty-nine times and there are only eighteen now living who hold it.

THE PNEUMONIA OF INFLUENZA.—Dr. William Pepper, of Philadelphia, addressed the New York Academy of Medicine at its regular session, April 17, on the forms of pneumonia by which epidemic influenza is complicated. In regard to the prevalence of pneumonia in his State, the best information he could give was that the occurrence of influenza during the past winter caused an increase of 100 per cent. Dr. F. C. Shattuck, who has investigated regarding the like conditions at Boston, stated that during December and January, the increase of pneumonia was not much less 200 per cent. as compared with the average during those two months in former years.

LARGE ESTATE OF DR. GULL, of LONDON.—The fact that the late Sir William Withey Gull left an estate valued at a third of a million pounds sterling, chiefly acquired by the practice of medicine, seems to have staggered quite a number of newspaper writers in England. The unfavorable comments, however, do not emanate from those who were formerly patients of his, but from those who never put a penny in the pool.

NEW HOSPITAL AT COOPERSTOWN.—The city of Cooperstown, N. Y., has received from an unknown donor the promise of $10,000 towards the establishment of a hospital for that place. The donor, it is stated, suggests the unusual name "the God's Providence" hospital as an appropriate title. The name sounds oddly, and evades the teaching of a lesson that might be profitably taught, if it should bear the name of Man's Improvidence Institution. But he who gives the money should be permitted to give the name also.

AN ANTI-PREMATURE BURIAL SOCIETY.—The *Medical Record* states that a number of physicians and laymen are about to organize a society having for its object the prevention of premature burial, an occurrence which the promoters of the organization believe to be more common than is generally supposed.

BOSTON'S STREETS.—A petition, signed by over one hundred physicians of Boston, was recently submitted to the City Council, protesting against the filthy condition of the streets, and urging immediate remedy before the advent of hot weather.

AMERICAN DENTAL ASSOCIATION.—The thirteenth annual session of the American Dental Association will be held at Excelsior Springs, Mo., commencing Tuesday, August 5, at 10 o'clock A.M.

TOPICS OF THE WEEK.

THE MAIN OBJECT.

Is the listening to papers and discussions the end of chief importance in attending a session of the American Medical Association? We think not. Are we not better able to read and comprehend these, to digest and absorb at our leisure what we like of their scientific lore as they appear in the Association JOURNAL, than when they are sprung on us in this hasty fashion, when we may be impressed more by the manner of the speaker than by the soundness of his argument?

We believe that one of the greatest benefits to be derived from such meetings is the acquaintance which we form with those whose names and writings are already familiar to us. There we meet the *men*, and not the writers. We study their learning, their appearance, their very selves, in fact, and the groundwork for a better appreciation of their true worth is thus given us. An acquaintance with the members of this body is no small possession; it is a tangible reality, of which the possessor may well be proud. There are congregated the venerable fathers of medicine and surgery of our country—those who have labored long and earnestly in the great cause of the advancement of the profession, and for the concentration and organization of its forces; and who yet stand in the traces lending their aid with fatherly beneficence. There we see the *workers* of the profession, the men who originate, who record, who develop and formulate the rules and principles of medical and surgical practice, who in their turn, at some future date, will be looked upon as the fathers of the profession—but who, no doubt, will resent a too early application of that term, or its application in too comprehensive a sense.—Editorial, *Weekly Medical Review.*

A CODE OF ETHICS FOR DENTAL COLLEGES.

Probably one of the most pronounced features distinguishing dentists who are members of dental societies from those who are not, has been brought about by the requirements of societies in the matter of ethics. One of the first conditions governing the applicant to any society is that he shall subscribe to a certain Code of Ethics, and the moment he has done that—if done in good faith—he has drawn a decided line of distinction between himself and the army of quacks and charlatans who infest the profession. It is this Code of Ethics always before his mind which presses upon him the necessity for strict professional conduct, and while the spirit of the Code is often transgressed in individual cases, yet the influence upon the profession generally has been immeasurably beneficial.

But what shall we say of our dental colleges? Shall our societies be governed by high ethical standards, and our colleges be left to conduct themselves in a slipshod manner wholly unbecoming professional institutions? A college should be governed by a Code of Ethics at least as stringent as that governing the private practice of any of its faculty.

It is, in fact, more important that a college should be conducted in a strictly professional spirit, than that a society should lay down a rule of procedure for its individual members. While both the college and the society may be termed educational institutions, the former deals with individuals in the formative stage of their professional life; the latter takes them when presumably their ideas of professional dignity are already formed. The power of precept has too often been exemplified to require emphasis here, but it is not too much to say that if some of our young graduates of to-day should go far amiss in matters of ethics, they might with propriety point to their Alma Mater as setting them the first example. If a student sees in the public prints a quack advertisement of his own college holding out inducements for patients, it will not require much of a stretch of his conscience to make him resort to the same methods.

The college has come to be an immense factor for good or evil in the profession, since nearly all our applicants for license to-day are graduates. The college moulds the mind of the future practitioner; it gives him his first impression of professional life; it mends or mars his tendency to a perfect professional career.

We do not wish to criticise in detail all the evils existing in our colleges, but most of them are traceable to the one idea of money-getting. It is an imposition on the profession and the people to conduct an institution of this kind for the prime purpose of emolument. In any but State institutions it is of course necessary to make revenue enough to procure the best advantages in appliances and instructors, but beyond this the conduct of the college should be governed with a view to the greatest amount of good rather than the greatest amount of gold.

A Code of Ethics to which all the colleges belonging to the National Association of Dental Faculties should subscribe would be in line with the recent advancement made by that body. We are not presumptuous enough to submit a Code for their consideration, believing the matter to be in better hands if left to the Association itself, but we earnestly recommend that at the coming meeting in August, a committee be appointed to draft a Code to be submitted to the main body. Then let them discuss it fully with the true interests of the profession in their minds, and when they arrive at a Code which in their wisdom seems the most suitable let them adopt it unanimously.

If this be done, and the Code afterwards be adhered to, we shall have less complaint from the profession, and the stigma "colleges for revenue only," will no longer hit the mark so closely as it does to-day.—Editorial, *Dental Review.*

SMALL-POX IN ITALY.

From Rome a correspondent writes: "The 'Consiglio Superiore di Sanità' has just concluded its first quarterly session under the Presidency of Professor James Moleschott, on the sanitary state of Italy. A striking feature of its report will be found to be not only the eminently satisfactory condition of the public health, but in particular the remarkable diminution of small-pox under the new regulations. While in the January of 1889 there were 5,324 cases of the disease, in February 4,276, and in March 4,210, in the January of 1890 there were 2,317 cases, in February 1,241, and in March 1,618. This diminution of the disease, alike in virulence as in diffusion, is ascribed by the 'Consiglio' to the ever-increasing efficiency of the means of vaccination and revaccination in the communes—a concurrent cause being the facility with which vaccine lymph of the finest quality is provided by the State 'Istituto Vaccinogeno,' which in the first quarter of the present year distributed enough to vaccinate more than 145,000 persons. Other business before the Consiglio included suggestions to be submitted to the Minister of Grace and Justice for a more thorough support on the part of the legal authorities of the efforts of sanitary officers to bring contraveners of the Public Health Act under the penalties of the law. Meanwhile, the Consigli Provinciali are working admirably—a formidable epidemic of scarlatina in the Island of Elba having just been promptly cut short by the energetic action of the Medical Commission from Leghorn, headed by Drs. Chiappe and Della Strologo."—*Lancet.*

THE HYGIENIC TRAINING OF WOMEN.

Mr. Frederick Treves called attention to a perfectly new branch of the work undertaken by the Society with reference to physical education. Within the last few years an immense deal of attention had been directed to the matter of physical education. It had been pointed out that the education of the mind was well looked after while the education of the body was practically allowed to look after itself. Parents did not realize that proper physical education must be conducted on as precise and as careful scientific lines as the ordinary education of the mind. Parents were quite content to send their children to gymnasiums, and when they had done this, felt that their physical education was complete. They were unaware that there was no proper control over the teachers of gymnastics and calisthenics, a large number of whom were people totally unfit for their work. The particular object of the Society had, perhaps, rather more reference to children and to women than to men and boys. As a matter of fact, the latter class was admirably looked after. No one could find much to criticise in the athletic pursuits of our public schools. When they came to the London shopboy, they found his condition had been materially changed; he had taken to bicycling and other pursuits. When they came to schools, and especially to girls' schools, it must be confessed that the conditions were about as bad as they very well could be. They heard a good deal of the enormous advances of civilization during the last fifty or hundred years, and their marvellous improvement on the unfortunate savage, who had straight limbs, graceful carriage, and an absence of the ordinary aches and pains, and he was not disposed to be always taking tea or to be living in an atmosphere of tonics. People did not seem to be aware that by a judiciously supervised system of physical education, exercises and due attention to the development of the body it was possible to alter its proportions, to reduce redundances, and to develop deficient and feeble muscles. Motives of vanity and regard for the future physical development of their girls might so influence mothers, who were indifferent to higher considerations, to see that the physical education of girls was carried out, whether in families or in schools, under persons trained, skilled, and having the requisite knowledge to make such physical training in all respects useful and in no case injurious. Neither could be said of the very limited amount of physical training now given to girls. It was pointed out that the National Health Society's diplomas would be granted to such teachers of gymnastics, calisthenics, and physical exercises as had fulfilled the necessary curriculum and passed the required examinations. The Society hoped by the institution of this diploma to encourage development of physical education in this country; to render such training precise, effectual, and scientific; to protect the public, on the one hand, from incompetent teachers, and, on the other, to establish the position of such instructors as were fully qualified. It was intended, moreover, that the work of such teachers should be devoted and restricted to the one legitimate object set forth in the diploma, namely, physical training, and that they should not undertake the treatment of deformity or disease by "movement cures," "remedial exercises," massage, and the like. The diploma would certify that the candidate had passed an examination in the art and science of physical education, had fulfilled the curriculum required by the Society, and was fully qualified to act as an instructor of gymnastics, calisthenics, and physical exercises generally.—*British Medical Journal.*

A ROYAL SPECIALIST.

From Meran we hear that H. R. H. Duke Carl Theodore, of Bavaria, has resumed the gratuitous treatment of eye diseases among the Tyrolese poor, and that during the last four weeks he has carried to a successful issue 170 operations, of which 53 were for cataract. His Royal Highness is a duly qualified practitioner of the Munich school, whose curriculum he supplemented by the cliniques of Vienna and Berlin; and it is as no mere amateur, but as a surgeon whose skill goes hand-in-hand with his enthusiasm for the healing art, that he attracts to his hospital at Meran not only the Austrian, but the Swiss and the Italian poor, who travel long distances to benefit by his humane tendance and successful treatment. *The Lancet.*

CHOLERA INTELLIGENCE.

It is officially stated that cholera has now for some months past been entirely absent from Persia. A similar statement has not, at any time during the past winter, been possible as regards Mesopotamia, and it now appears that the disease has recurred there, the centre of the prevalence being Mosul on the Tigris.

TENTH INTERNATIONAL MEDICAL CONGRESS.

Dr. Newton M. Shaffer, Chairman Com. Orthopædic Section, N. Y. Academy of Medicine, writes us that a special Section of Orthopædic Surgery has been formed by the committee of organization of the Berlin Congress, and that members of the profession interested in orthopædic surgery are requested to be present at the Congress and to become members of the Section.

PRACTICAL NOTES.

EFFECT OF DRUGS ON INTESTINAL ABSORPTION.

Dr. S. Leubuscher, said that, according to recent experiments, intestinal absorption was no longer looked upon as a simple physical process, but as a function of the living epithelial cell of the intestinal wall. Thence everything which influenced the living activity of the cell must also exert an influence on absorption. These effects might either be due to an influence on the protoplasm of the cell or to disturbances of the circulation, or to an influence on the nervous system. As to the first mentioned point, the experiments were conducted in such a way that a strong solution of an inorganic acid was injected into a ligatured intestinal coil in a living animal, and, after sufficient cleaning, a certain quantity of a solution of grape sugar was poured into the same coil. The absorption of the grape sugar was constantly diminished. With regard to the second point, the arteries leading to a ligatured coil in the mesentery were ligatured in one case, and in another the veins were ligatured. On one occasion anæmia and in the other instance hyperæmia were thus produced. In both cases of disturbance of circulation, particularly the last form, the absorption of grape sugar and that of a solution of iodide of potassium was considerably interfered with. As to the third point, the experiments were not yet concluded. After those preliminary experiments it seemed probable that a number of drugs would also exert an influence on intestinal absorption. To test the intensity of absorption, grape sugar and solutions of iodide of potassium were used; as drugs, quinine, opium, morphine, alcohol, glycerine, besides weak solutions of common salt and the water of the Mühlbrunn of Carlsbad, were used. Two coils of the same length were ligatured in dogs and cats. Into one of these an aqueous solution of iodide of potassium or grape sugar was injected, and into the other the same substance, with the addition of a drug. There was a difference in the intensity of absorption, pointing to the influence of the drug. The experiments were continued on dogs with intestinal fistulæ produced by the Thiry-Pela method. It was evident from these experiments that quinine, opium and morphine diminished absorption even in feeble concentrations. Morphine had the same effect even when it did not come into direct contact with the mucous membrane, but was only applied subcutaneously. Alcohol, in slight concentrations (from ½ to 2 per cent.), increased the intensity of absorption; in large quantities it diminished it more and more. Glycerine was indifferent; a slight addition of common salt increased absorption. Mühlbrunn of Carlsbad had no effect. As to the iodide of potassium the experiments carried out on man showed that the diminution through the saliva in alcoholic solutions of a strong concentration was impaired. When men drank iodide of potassium in aqueous alcoholic solution, or in glycerine solution, or in Mühlbrunn of Carlsbad, the quantity of iodine secreted through the urine was, on the average, increased. Milk diminished this secretion.—*British Medical Journal.*

CAUSTIC PASTE FOR THE REMOVAL OF EPITHELIOMA.

At a recent meeting of the New York Dermatological Society (*Journal of Cutaneous and Genito-Urinary Diseases*, February, 1890) Dr. Lewis presented a case which had been satisfactorily treated by means of the following elaborate paste, which was first described by Dr. Bougard, of Brussels:

℞ Wheat flour	Parts,	60
Starch	Parts,	60
Arsenic	Part,	1
Cinnabar	Parts,	5
Ammonium chloride	Parts,	5
Mercuric chloride	Part,	0.5
Saturated sol. of zinc chlor. . . .	Parts,	245

The first six ingredients are separately ground to a fine powder and mixed in a mortar. The zinc chloride solution is then slowly added while the contents are rapidly stirred. The soft mass is then poured into an eathern pot, and, if covered, will keep in good condition for months.

In the case reported the outer horny covering of the epithelioma was first removed with liquor potassa; the paste was then applied and allowed to remain for thirty hours, after which poultices were applied for three days. At the end of that time the slough came away, leaving a healthy granulating surface.—*Medical News.*

SALOL IN THE GASTRO-INTESTINAL DERANGEMENTS OF CHILDREN.

Salol is an easily administered, safe drug in the first stage of gastro-enteritis in children, and in more chronic forms of entero-colitis, accompanied by slimy, bad-smelling evacuations. In the acute condition it is necessary to keep the stomach at rest and administer two or three doses of salol within five or six hours. For the more chronic state of catarrh it is best given in somewhat larger doses before meals. In frequent serous discharges and in colitis the salol does not produce the same good results as in the cases mentioned above, and its effect is uncertain, not being so rapid or so sure as an opiate.

In dysenteric disorders it cannot be relied on. It seems, then, that salol acts best in morbid conditions due to fermentation and decomposition in the stomach and upper bowel, and that it diminishes in power as it passes through the large intestine.—Walter Lester Carr, M.D., in *Arch. of Pæd.*

NECROLOGY.

Joseph P. Ross, M.D.,

Dr. Joseph P. Ross, the well-known physician of Chicago, died at his residence, 428 Washington Boulevard, on Sunday, June 15. He had been ailing for the last two years, and finally succumbed to softening of the brain.

The *Chicago Tribune*, in an eloquent tribute to his memory, says:

Dr. Joseph Presley Ross was a physician who, previous to his retirement from actual practice some six years ago, was one of the most eminent in the country in the treatment of the throat and lungs. His chair in Rush Medical College was that of "Clinical Medicine and Diseases of the Chest," and this position he retained as long as he remained in the practice of his profession, after which he became an emeritus professor. His chief memorial will be the "Ross Wing" of the Presbyterian Hospital, an institution for which he perfected the plans and obtained many substantial donations, notably $10,000 from Tuthill King, his father-in-law.

He was born January 7, 1828, on a farm in Clark County, Ohio, near what is now the manufacturing city of Springfield. The stock from which he was descended was noted among the Western pioneers for bravery and heroism in the Indian warfare. Before the Revolutionary War a Scotchman named Ross settled on the Potomac and was killed by the Indians. One of his sons had exactly the same experience as Capt. John Smith, but in this case he married the chieftain's daughter, who played the part of Pocahontas.

The great grandfather of Dr. Ross fell into the hands of the Indians, and was ransomed by a French trader after the fire had been lighted which was to burn him alive. William Ross, the father of Dr. Ross, removed to Kentucky, in 1788, and in 1797 to Ohio, first near Cincinnati, and then, four years before Ohio became a State, removed to Clark County. His son Elijah married Mary Laws Houston, of Delaware, O., and of them was born Dr. J. P. Ross and five other sons. On a farm near Piqua, O., he spent his boyhood days, and went to school in the old district school until he was 19 years old, farming between whiles. But agriculture did not suit him, and he started out in business for himself, first in a woolen mill at Piqua, where he cleared a profit of $2,000 in two years, quite a considerable sum of money in those days.

He used this to educate himself for the medical profession. After a scientific course in the academy at Piqua, he read medicine under the preceptorship of Dr. G. Volney Dorsey, one of the most eminent physicians of the Buckeye State, and afterwards State Treasurer. Dr. Ross's medical education was completed at Starling Medical College, at Columbus, and the Ohio Medical College of Cincinnati.

For a year after his graduation he practiced at St. Mary's, Ohio, but in 1853 he decided to come to Chicago. He formed a partnership with Dr. Lucien P. Cheney, which lasted several years, during which he built up a large practice and was made physician to the orphan asylum, a position which he held for many years. He was also the first physician to the State Reform School, now at Pontiac, but at that time in Chicago.

As early as 1858 he was interested in hospital work in Chicago. It was then that he, with others, leased what was known as the old City Hospital of Chicago, which he conducted until 1866, when the Cook County Hospital, which had been used during the war as a Government military hospital, was again taken charge of by the county authorities. At that time he became a member of the Board of County Commissioners solely that he might build up this institution, and his services in this connection were hardly less conspicuous than in the inception and management of the Presbyterian Hospital enterprise.

He devoted an immense amount of his time as Chairman of the Hospital Committee, and to him is due the systematizing of the rules of government of this institution and the present spacious grounds. As long as he remained in practice he was one of the attending physicians of this hospital.

His connection with Rush Medical College began in 1868 and continued through its most disastrous days after the great fire, when the handsome building was left a smoldering ruin just as the annual course of lectures had begun.

A busy man, he was not too busy to be religious. Since ever the Jefferson Park Presbyterian Church was, he has been an elder. He did not neglect the cause of education either. He was a trustee of Lake Forest University, a member of the directory of McCormick Theological Seminary, and an active participant in the work of the American Medical Missionary Society.

The degree of M. A. was conferred on him by Kenyon College, and he held memberships in most of the leading medical societies in the country.

One of the projects of his later life, which the disease which left him a broken and helpless invalid drove him to abandon, was the building a great sanitarium on Lookout Mountain, which he regarded as one of the most suitable places for such an institution to be found in the country.

Joseph W. Howe, M.D.

Dr. Joseph W. Howe, of New York, a medical writer of some prominence, died several hours after an apoplectic seizure on June 7, while on board the Umbria, *en route* for Queenstown. He was born September 30, 1843, in the Province of

New Brunswick, Canada, and had some training as a printer in the *Colonial Times Office*, which belonged to his father. He subsequently became a reporter, and acted in that capacity during the sessions of the Colonial Parliament in 1861–1862. A year afterwards he studied in the City of New York, and in 1866 was graduated from the University Medical College. Two years after a service in Bellevue Hospital, he was appointed a physician to the out-door department, and a clinical professor of surgery. Besides this he was visiting surgeon of the St. Francis Hospital and President of its Medical Board. He was a widower, and leaves an only child, a daughter 12 years old, who was with him on board the steamer.

BOOK REVIEWS.

Clevenger on Spinal Concussion. By S. V. Clevenger, M.D., of Chicago, Ill. Philadelphia: F. A. Davis. 1890. Price $2.50.

This book is written for both lawyer and physician, with the purpose of bringing up to date the recent additions to our knowledge of the subject of spinal concussion, for which the name Erichson's disease is very properly advocated. The first five chapters are given up to the views of Erichson, who is extolled; Page, who is uniformly ridiculed; Oppenheim, who is applauded, a

many others. *The* translation of Opp

one if they did see it." Again, p. 128, when speaking of medical schools he asserts that "in our medical chairs we find a preponderance of scrambling medical politicians, mediocrity, and downright ignorance, the usual medical lecture consisting of boasts, solecisms, religious platitudes and medical slang."

As a compilation of recent opinions and observations in the indicated field the volume has a real value, but the views and estimates of the author will bear a grain of salt.

MISCELLANY.

LETTERS RECEIVED.

Dr. W. S. Pickens, Indianapolis, Ind.; Battle & Co. St. Louis, Mo.; Dr. Chalante, Liége, Belgique; A. T Jones, Nashville, Tenn.; Drs. Hobson and Appleby, Bristow, Ia.; J. W. Graham, Denver, Col.; Dr. G. W. Moody Shelbyville, Tenn.; Dr. Y. A. McSwain, Paris, Tenn.; Dr G. W. Fockler, Delavan, Ill.; Dr. R. J. Dunglison, Philadelphia; Dr. Wm. L. Musser, Cincinnati; Dr. J. R. Haggard, Lincoln, Neb.; Dr. S. E. Hampton, Milton, Ky.; Dr. T. C. Peterson, Warrior's Mark, Pa.; Cadogan & Hatcher, Quincy, Ill.; Dr. S. A. Reynolds, Sago, Va Dr. A. M. Miller, Bird-in-Hand, Pa.; Dr. J. F. Chmellicek, Dr. A. L. Carroll, I. Haldenstein, New York; Western Pennsylvania Medical College, Pittsburgh, Pa.; Dr T. E. Murrell, Little Rock, Ark.; Dr, J. F. Blair, Linwood, O.; Dr. H. G. Buckingham, Clayton, N. J.; Dr. W. G. Young, Mackinaw City, Mich.; Dr. Chas. Mitchell, Nashville, Tenn.; Dr. W. S. Brown, Stoneham, Mass; Dr. H. T. Rennolds, Baltimore, Md.; Stollwerk & Bros, . H. Bates, Lyon Mfg. Co., New York.

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